

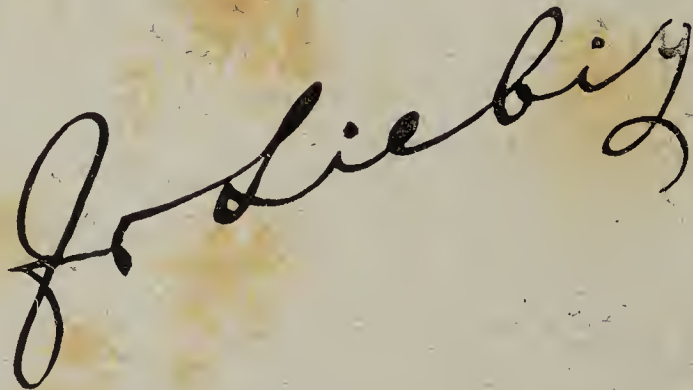
CAUTION.

In consequence of numerous complaints having reached the Liebig Company of the substitution of inferior extracts when the original and genuine

LIEBIG

Company's Extract

has been required, the public are hereby cautioned that only Extract guaranteed genuine by the late Justus von Liebig bears his signature,

A handwritten signature in black ink, reading "J. Liebig". The signature is written in a cursive style with a large, looping initial "J" and a long, sweeping underline.

In Blue across the Label.

BEWARE OF IMITATIONS,

Which are not so carefully manufactured.

A Rational Dietary for Infants.

This series of Foods has been designed to supply for the first time a need in the rational dietary of infants fed by hand. None of the substitutes for mother's milk have hitherto been physiologically accurate. Especially is this so with the diluted cow's milk given usually in the earlier days of infant life.

The following Table enables one to appreciate the difference between—

Cow's MILK—as sold in Towns.				HUMAN MILK—direct from Breast.			
Reaction.		Acid		Reaction.		Alkaline	
Specific gravity	1·031	Specific gravity ..	..	..	1·027
Water	87·0	Water ..	..	..	87·5
Fat	3·5	Fat ..	..	..	3·8
Casein	3·0	Casein ..	..	..	1·0
Albumen	0·5	Albumen ..	..	..	1·2
Milk Sugar	4·5	Milk Sugar ..	..	..	6·2
Bacteria	very numerous	Bacteria ..	..	..	absent

Thus cow's milk contains an excess of casein which curdles in the infant's stomach, and a deficiency in soluble albumen and sugar. Condensed milk, on the other hand, contains an excess of sugar, but a decided deficiency in fat and soluble albumen, and a slight deficiency in casein. We have therefore endeavoured successfully to produce two complete Foods which are, physiologically, practically the same as the mother's milk. These are

The "Allenburys" Milk Food, No. 1.

which is prepared in the form of a powder, is made from fresh cow's milk, from which, after the proximate composition has been ascertained, the excess of casein is removed, and the deficiency in fat, soluble albumen, and milk sugar corrected. The method of preparation renders this food sterile, and boiled water alone is required in preparing it for use.

Infants reared by hand should be brought up on this food until they are three months old.

If the child be strong and able to assimilate the food, it is advisable to now begin using

The "Allenburys" Milk Food, No. 2.

This food, to meet the increasing requirements of the digestive apparatus, contains, besides the constituents of "First Food," maltose, with a small proportion of dextrine, together with soluble phosphates derived from whole meal. There is, however, no unconverted starch left in the food which at this age the infant would be unable to digest.

Experience has shown conclusively that after five or six months the infant can be most advantageously reared on

The "Allenburys" "Malted Food," No. 3.

This has been manufactured by us for many years after the formula of LIEBIG, but by improved methods. The basis of the food is fine wheaten flour rich in nitrogen, with this advantage, that a large proportion, but not all the starch, is converted by the action of Malt Extract. The proportions are so arranged that the infant economy is not paralysed, as with some foods, by having everything digested for it, while on the other hand it is not given too much starch to digest. This food can be most successfully given when the mother's milk is beginning to fail both in quantity and richness, without the child being actually weaned. In this way a gradual transition can be effected from the natural to the full use of the artificial food.

It has been found already that this series of desiccated foods have proved invaluable on board ship, especially in the case when children have to be taken at an early age to India. It is found that owing to their careful preparation the foods keep well in hot climates, and the infant is shielded from the risk of bacterial infections by polluted milk. All risk is removed if only the water used be sterilised by well boiling.

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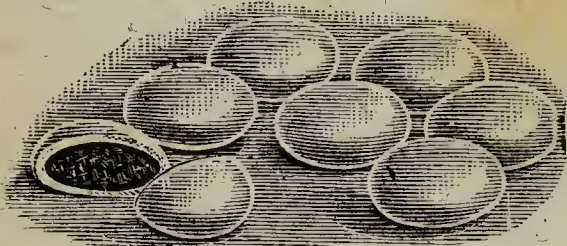
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BY

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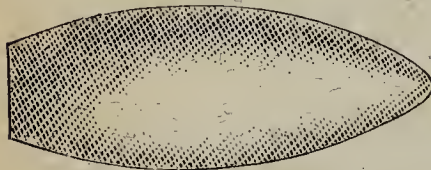
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When a Suppository of this form has been introduced as far as its greatest diameter, the pressure of the sphincter at once carries it forward into the rectum, and the inconvenience and discomfort to the patient of having to push it far in against the pressure of the sphincter is obviated. This is of special importance in the use of Nutrient Suppositories requiring to be frequently administered. They are made with cacao butter, or non-greasy base.

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"The maintenance of Nutrition is the Key-note of the successful treatment of Phthisis."—
THE LANCET.

Bynol. "The Perfected" Malt & Oil.

PHYSIOLOGY.

This can be best considered by taking separately its two constituents :—

1. The Malt Extract used contains an amylolytic ferment called diastase, of the fullest activity. Its special function of converting starchy foods into a soluble sugar which can be easily absorbed renders this preparation at once invaluable for aiding assimilation. In weakly and cachectic conditions the activity of the natural allied ferment ptyaline becomes greatly efficient, with the consequence that much ingested material is never digested. The Malt Extract being semi-fluid, and possessing a characteristic sweet taste, is therefore physically a very convenient vehicle for emulsifying and disguising the slight taste of the other constituent—Cod Liver Oil.

2. The physiological properties and fate of the latter body are complex; its equivalent in heat-units as regards the animal body is at least two-and-a-half times that of Meat Extract (Liebig); that is to say, it is at least two-and-a-half times as valuable as Meat Extract in maintaining the body weight. Long use has shown that, in atrophic conditions of the absorbing mechanism of the bowel, Cod Liver Oil is not only more easily emulsified, but more easily taken up by the villi of the small intestines and passed on to the lacteals.

In the "Perfected" Cod Liver Oil, where the formation of certain oxidation products irritating to the stomach is avoided, we have perhaps the ideal form of fat-food. Milk, cream, &c., are able to produce butyric and other allied fatty acids, of little use except to irritate the gastric and intestinal mucous membrane.

To more perfectly understand the part played by Cod Liver Oil, the digestion of fat-foods is roughly as follows :—In the stomach slightly, but chiefly in the duodenum, by the action of the pancreatic ferment, fats are—

1. Emulsified, that is, broken up into minute oil globules, each surrounded by what is known as a haptogen membrane. In this physical state absorption is possible by the villi, the oils being unaltered.

2. Saponified, that is, split into fatty acids and glycerine, both capable of absorption by the intestine.

THERAPEUTICS.

The above considerations enable us to understand more clearly the immense use Malt Extract and Cod Liver Oil, especially in combination, have in wasting diseases.

In Phthisis, for example, the digestive ferments are of lowered activity, and the introduction of a modicum of artificial ferment not only increases the actual amount of food assimilated, but the power of the enfeebled ferments to assimilate.

The almost constant rise of temperature above the normal is maintained chiefly at the expense of the fatty constituents of the body; hence the wasting. This, experience has shown, can best (putting aside questions of hygiene) be combatted by increasing considerably the amount of fat-food and carbohydrate food.

When absorbed, the part played by fat-food is practically two-fold :—

1. It becomes the source from which the surplus fat stored up in various parts of the body may be replenished.

2. Fat-food is one of the chief sources of animal heat, as shown above.

As we have seen, the Cod Liver Oil is the best of the class of fat-foods, especially in an enfeebled condition, and, combined with Malt Extract, as in Bynol, further assists the assimilation of the extra carbohydrate ingested.

That what is physiologically is also clinically true cannot be better illustrated than in the remarks made by the late Sir ANDREW CLARK in a lecture at the London Hospital :—

"I have said that these fibroid cases are poor creatures, thin and white, and have what may be called nutritive debility, and the question is, What am I to do with them? You cannot do better than endeavour to make the patient walk in the way of physiological righteousness. But that sometimes will not do. Some people may be physiologically well behaved, and somehow they do not thrive on it. Do you do anything in those cases? There are two remedies which sometimes do succeed where the ordinary diet will not succeed in nourishing the patient—the one is Cod Liver Oil and Malt given with cod—a preparation called Bynol—and the other is the remedy called Bynin Emulsion, consisting of hypophosphites, oil, and Malt; both are prepared by Messrs. ALLEN & HANBURY'S. These are two good nutritive agents in promoting nutrition."

"A perfect combination of Malt Extract and Cod-Liver Oil."—THE BRITISH MEDICAL JOURNAL.

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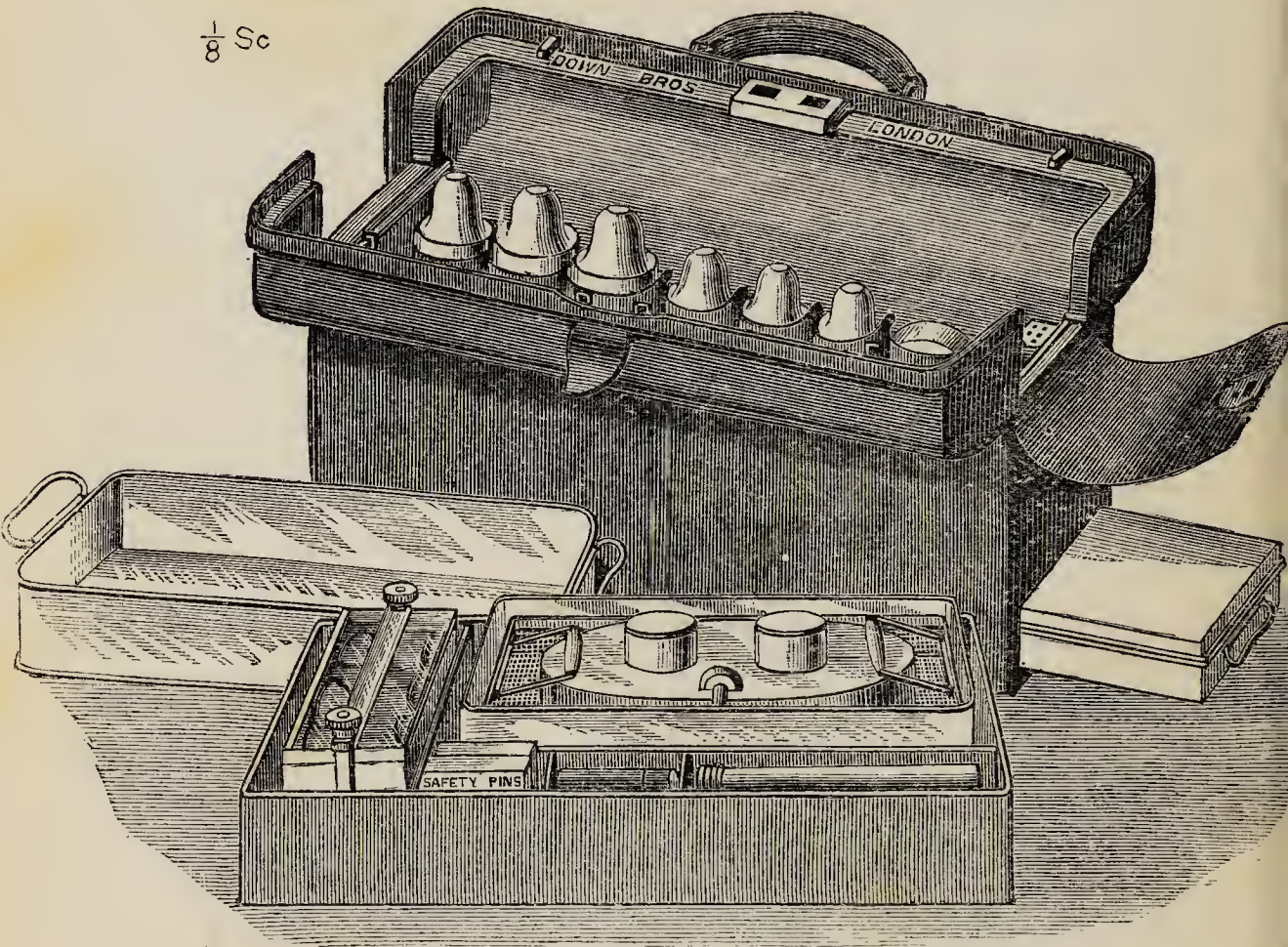
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EDITED BY

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Synopsis.

ABSTRACTS AND OTHER SHORT ARTICLES FROM THE MEDICAL JOURNALS, SHOWING THE MOST IMPORTANT INDICATIONS OF TREATMENT, PUBLISHED BY DIFFERENT WRITERS DURING THE HALF YEAR.

ARRANGED ALPHABETICALLY.

GENERAL MEDICINE AND THERAPEUTICS.

ADDISON'S DISEASE, SUPRARENAL EXTRACT IN.

M. Bécère (*Semaine Médicale*, March 2, 1898) communicated to the Société Médicale des Hôpitaux an interesting observation. The case was in all respects very typical, and in addition there was a small phthisical lesion at the apex of one lung. He was given daily 15—50 grammes of the fresh suprarenal glands of beef, veal, or mutton, and also during some part of the time hypodermic injections of a solution of suprarenals in glycerine and water. For five months there was no obvious improvement, although he suffered no ill-effects from the treatment. After a further lapse of time his strength began gradually to return and the pigmentation to diminish in intensity, so that finally he was able to resume his employment, and was still at work three years later. Bécère remarks that this latent period of reaction is not a matter of surprise. Suprarenal extract is not analogous to thyroid extract when given to subjects of myxœdema. In giving thyroid extract one aims at restoring to the economy something of which it has been deprived, whereas the function of suprarenal extract is apparently only to excite compensatory hypertrophy in the healthy residue of suprarenal tissue. Hence in the one case the effects are remote, in the other immediate. (From Dr. Crawford's Summary, *The Practitioner*, May, 1898.)

ANTIPYRINE RASHES.

At the Dermatological Society Herr Lesser said that the antipyrine exanthema were among the most extended of the drug exanthema. The reason was that antipyrine was not only prescribed by the physician, but was procured and used extensively by the laity themselves. The characteristic of

them was : (1) The appearance of only a few spots, the points of predilection were around the body openings ; further, points liable to pressure, and lastly the extremities, hands and toes. (2) Their strong pigmentation and their long persistence. (3) Their occasional chilblain-like infiltration. (4) The outbreaks in the same spots every time antipyrine was taken. In addition to these, other parts might be attacked. There was violent burning and itching, which came on rapidly after taking the drug.

Hr. Blaschko remarked that the diagnosis was especially important when the rash appeared on the lips or the genitals, as here an incorrect diagnosis of syphilis might easily be made. In one case seen by him, the rash only appeared on the mucous membrane of the mouth, and showed a pemphigus-like character. (Medical Press and Circular, April 6, 1898).

BISMUTH, POISONING WITH.

In the *Centralblatt für innere Medizin* for March 5 there are abstracts of accounts of two cases in which the use of preparations of bismuth was followed by symptoms of poisoning. The first, taken from the *Korrespondenzblatt für schweizer Aerzte*, was one in which rather more than an ounce of a 10 per cent. emulsion of airol with equal parts of glycerine and olive oil was injected into a cold abscess after the pus had been removed with an aspirator. In the course of three days the patient had severe stomatitis with slight nausea, and the mucous membrane of the mouth was coloured black. The symptoms subsided on the withdrawal of the emulsion, but for two weeks longer the blackening of the oral mucous membrane was still distinctly visible. The inferences are drawn that airol is neither absolutely non-poisonous nor altogether insoluble, and that it should not be used in the form of a glycerine emulsion, for the glycerine gradually dissolves it. The other case (*Bulletin général de thérapeutique*, April 23, 1897) was that of a man who took from fifteen to thirty grains of bismuth sub-nitrate, and broke out with a rash like that of scarlet fever. It lasted four or five days, and was followed by decided desquamation, especially on the hands and feet. (New York Medical Journal, March 19, 1898.)

CHLOROSIS.

E. Grawitz (*Fortschritte der Med.*, 1898, No. 3) gives a critical review of recent publications on chlorosis and an expression of his own views on the nature of that disease. He accepts as settled the low hæmoglobin with relatively high corpuscle-count, at least in so far as the present methods of examination are concerned. But he considers a relatively diminished mass

of red corpuscles and relatively larger proportion of plasma much more important in determining the real cause of the disease. In marked contrast to pernicious anæmia is the absence of degenerative changes in the red cells, of evidences of increased activity of the bone-marrow, and of changes in the number and proportions of the leucocytes. Not to be neglected are the evidences of increased fluid in the tissues of the body, including the œdema of the retina, shown by Romberg, and the increase of diuresis in recovery, shown by Von Noorden. From these and other facts, Grawitz looks on chlorosis as the symptom of a general neurosis, in which the anæmic blood in turn causes many other symptoms. He ascribes the altered composition of the blood to a morbid function of the vasomotor nerves, leading to polyplasmia, lymph-congestion, and imperfect development of red corpuscles. That chlorosis occurs especially at puberty, while older women with neuroses, especially hysteria, have usually an ordinary anæmia, he explains by assuming that at the time of development of the female sexual organs the vasomotor nerves are especially disposed to disease, just as in still earlier periods the motor functions are affected, as in chorea. (*American Journal of Medical Science*, May, 1898.)

CINCHONISM.—The Prevention of.

In a number of issues of the *Therapeutic Gazette* within the last few years attention has been called in particular to the disagreeable after-effects which often ensue when quinine is administered. With the more moderate of these effects nearly every one is familiar, for the laity often prescribe quinine for themselves in such large doses that they speedily experience the tinnitus, or deafness and headache, which full doses of this drug so readily produce. There are two ways in which these disagreeable symptoms may to a certain extent be modified by combining with the quinine other remedies. The oldest way, and the method which is perhaps resorted to most frequently, is the administration with each dose of quinine of five or ten grains of bromide of potassium or bromide of sodium, which seem, to a considerable extent, to modify the aural symptoms which we have mentioned. If the dose has been a very large one and the patient is particularly susceptible to quinine, it may be well to give at the same time with the quinine a little fluid extract of ergot for its tonic effect upon the cerebral and meningeal blood-vessels. Another method for the prevention of cinchonism is that which has been suggested by Aubert within the last few months. He asserts that the administration of atropine in the dose of $\frac{1}{250}$ to $\frac{1}{150}$ of a grain with each dose of quinine greatly modifies the symptoms, and in those cases where the quinine was given for the relief of the neuralgia

aided the quinine very materially in relieving the pain. It must be remembered, on the other hand, that in those who have a susceptibility to atropine, the dryness of the mouth and throat and the disordered vision which may ensue after this dose of the drug might prove more uncomfortable to the patient than if the quinine had been administered alone. (*Therapeutic Gazette*, January 15, 1898.)

COLD IN THE ETIOLOGY OF DISEASES.

Chelmonski, in the *Deutsches Archiv für klinische Medicin*, 1897, p. 140, reaches the following conclusions (*Gazette hebdomadaire de médecine et de chirurgie*, December 19):—(1) Taking cold, in the ordinary acceptation of the term, does not exist. (2) The etiological rôle of cold is very subordinate; in inflammatory affections it does not figure, except as a predisposing cause. (3) Chilling is dependent upon the action of thermic agents that are ordinarily difficult to avoid. (4) The mode of reaction of the skin against the thermic excitation produced indicates whether the individual may, in certain conditions, contract a cold. (5) The degree of tendency to colds is not a constant property of the individual. (6) Old persons, those attacked with intermittent fever, and individuals suffering from renal affections seem to be more subject to taking cold. (7) There does not exist any relation between the tendency to colds, on the one hand, and the condition of nutrition and the thermic sensibility, on the other. (8) Individuals may be protected from diseases caused by cold by developing, with appropriate means, the power of reaction against the thermic influences. (*New York Medical Journal*, January 15, 1898.)

DIABETIC COMA.

The prognosis is grave. There are only three or four cases reported in which recovery has taken place. Prevention is, therefore, the primary indication in the treatment. All predisposing causes such as constipation, fatigue, nervous shock, and cold should be avoided. Von Noorden says that in the prodromal stage, when this is recognised, a change of diet, no matter what this may have been, often exercises a beneficial influence. A large amount of alcohol in small doses is necessary. Constipation should be relieved by mild laxatives. Large doses of alkalies have been recommended, *e.g.*, six or eight drachms of bicarbonate of soda per day, according to the theory that the condition is one of acid intoxication. When the coma has actually set in our present remedies are helpless. Transfusion of blood, inhalation of oxygen, injection of weak solutions of phosphates and chlorides of sodium into the veins, and of a 3 per cent. solution of sodium carbonate have all been used. Intravenous injection of the last solution was successful in only

one case of seventeen collected by Chadbourne, temporary improvement being obtained in seven. A very common method of treatment at the present time is the subcutaneous and intravenous injection of quantities of normal saline solution at frequent intervals. Von Noorden recommends this method highly, and it would seem to be a rational one. In ten of the twelve cases in which coma developed in the Johns Hopkins Hospital this treatment was used, and in two of the cases the patients were restored to consciousness so that they would have been capable of making a will. Subsequently both cases terminated fatally. In three other cases the pulse was improved and the respiration rendered much less laboured. Subcutaneous and intravenous injection of salt solution seems to give the best results yet obtained in diabetic coma. In addition, injection of camphor and ether may be advised, because they are indicated by one symptom seldom absent in diabetic coma, namely, weakness of the heart. (From a leading article in the *Journal of the American Medical Association*, January 15, 1898.)

DIET IN THE FEBRILE DISEASES OF CHILDREN.

In the feeding of sick children, three errors are common—too frequent feeding and the administration of too much and of too rich food. The digestive powers are diminished by fever even more in children than in adults. Less food, therefore, should be given in each twenty-four hours than in health, and it should be more diluted. It is a serious error to give milk to a sick child every few minutes. It should not be forgotten that milk, while liquid outside the body, becomes a solid in the stomach, and is a tax upon the digestive power. When milk is given at such frequent intervals it often happens, when the critical period arrives, that the overburdened stomach refuses to do its work. Complete loss of appetite, and perhaps vomiting, indigestion, and gastro-enteritis, are added as a complication to the original disease. Simple loss of appetite, by depriving the child of the nourishment it so urgently needs, may in serious cases prove a fatal complication. A careful record should be kept of the exact amount of food taken and retained during each twenty-four hours. As to the food to be selected in the acute fevers of children, the chief reliance may in most cases be placed upon milk, diluted according to the age of the child, and peptonised if necessary. Next to milk in importance are beef broth, mutton broth, beef juice, wine whey, and oatmeal or barley gruel. They should be given in amounts suitable to the age of the child, and, except when indicated for short intervals, the frequency of their administration should rarely be less than two hours.—*Archives of Pediatrics*, January, 1898. (From abstract in the *Clinical Journal*, January 26, 1898.)

DIPHTHERIA ANTITOXIN AS A PROPHYLACTIC.

Dr. Edward L. Twombly says that judging by the experience of various cases, it is but fair to conclude that antitoxin was the agent which gave the 21 children and nurse who had been exposed complete immunity from the disease. Last year he gave fourteen injections for the same purpose, with success; but two-thirds of the cases had some form of either local or general urticaria. All recovered from it in a few days without special treatment. He attributes the better results this year (1) to the good serum; (2) to the smallness of the dose (two to five cubic centimetres instead of eight to ten cubic centimetres, which were used last year) as the serum is made now of greater strength; (3) the care in boiling the needle after rinsing with water after each injection; and (4) the place chosen for inserting the needle, which was in the loose folds of skin in the posterior right axillary line, over the lower ribs and above the line of the bend of the elbow at the side. The antitoxin seemed to be absorbed more readily than if it had been injected on the outside of the thigh, as was done in the cases of last year, when so much urticarial disturbance was noticed. In conclusion, he calls attention to the small doses (one-third to one-half the regular dose) that seem sufficient to immunise our little patients; the greater susceptibility to diphtherial poison after or during measles; and the absence of any dangerous effect where proper serum is properly given. (Boston Medical and Surgical Journal, December 23, 1897.)

DIPHTHERIA BACILLUS.—Rapid Diagnosis of the.

Fr. Schanz (*Berl. Klin. Wochensch.*, 1897, xxxiv., 48) writes that with the general introduction of antitoxin, the want has naturally been felt more and more to diagnose true diphtheria as soon as possible, on the one hand, to be able to interfere in the very early stage; on the other, not to inject the patient unnecessarily with Loeffler's specific serum. Stations for examination were founded here and there, so that the preparations which were sent by the physician could at once be examined for the Loeffler bacillus, and the physician could within twenty-four hours, be in possession of the diagnosis. Is this, however, in the present state of our science, at all possible? This question is answered with no, by Schanz, pointing out the fact that there are other bacilli which are similar in appearance to Loeffler's, but which have nothing to do with diphtheria. According to Loeffler himself, there exists very frequently in the oral cavity such a saprophyte, which is very difficult to distinguish from the diphtheria bacillus which has become a virulent, and, as Fränkel has shown, can only be differentiated by its virulence from the latter. The examination for its

poisonous qualities is, however, not possible in twenty-four hours, for which reason the postulate, to render an exact diagnosis within this time, must be looked upon as impossible. (Pediatrics, March 15, 1898.)

DIPHTHERIA.—Immunity against.

From actual experience we are perfectly justified in believing:— (1) That immunity in any given case, of no matter how thorough exposure to diphtheria, may be conferred, for at least ten days, by the injection of a small dose (100-250 units) of serum, provided it is given twenty-four hours previous to actual infection. (2) That a larger dose (250 units for a child of two, up to 500 units for one of eight or over) will confer safety for three weeks—or to be a little more conservative, let us say twenty days—under similar conditions. (3) That no harm will result from the treatment in a vast majority of cases of sick children, and probably in no case of a healthy child, provided the serum used is up to the present standard of purity. In conclusion, I would say that any one who thinks that antitoxin will prevent the occurrence of a follicular tonsilitis or of a coryza in an individual who happens to have the Klebs-Löffler bacillus in his throat or nose will be disappointed; for neither of these conditions constitutes a diphtheria any more than the co-existence of the pneumococcus in the saliva and a bronchitis constitutes a frank pneumonia. I will add that a physician who fails to promptly immunise the members of a family or close community in which diphtheria breaks out, neglects to do his duty by those whose safety lies in his hands. (From Dr. Gordon Morrill's paper in the Boston Medical and Surgical Journal, March 3, 1898.)

Diphtheria.—Intubation in.

The operator, standing or sitting in front and a little to the right of the patient, at a height which gives easy access to the mouth, the patient's mouth being well open and the gag on the left side, passes his left forefinger well down into the larynx over the epiglottis until he feels the two small tips of the arytenoid cartilages, which indicate the posterior portion of the larynx. Then the introducing instrument is quickly passed down over the palmar tip of the left forefinger until the end of the tube engages in the larynx, gentle pressure being continued until the tube is well down in the larynx, when the left forefinger is transferred to the head of the tube and the obturator removed by liberating the sliding catch on the handle of the introducer. The left forefinger should remain gently pressing the head of the tube until the obturator is well out of the

mouth. Care should be taken that the obturator is not removed in any way from the tube until the latter is well down in the larynx, thus avoiding any danger of stripping off or wounding the mucous membrane. (From Dr. W. K. Simpson's paper in the *Medical News*, March 19, 1898.)

Diphtheria.—Nursing in.

Thomas (*Der Kinderarzt*, 1897, viii., 10) does not believe that the treatment with antitoxin injection alone is sufficient, but recommends as well the carrying out of all rules of general therapeutics in vogue before antitoxin treatment was employed. It is necessary, in the first place, to administer a roborant diet. The cleansing of the mouth and nose with a 1 to 2 per cent. solution of salicylic acid is to be recommended, it being of great value for the removal of secretion and pseudo-membranes. A bath of lukewarm water also should be administered, for the preservation of the function of the skin is of great importance. The diet of a child suffering with diphtheria is at all times an important problem, as it frequently happens that children will not eat or drink for days together, and occasionally a case is met with which dies for want of food, although the disease has been cured. Finally, as the after-effects of serum therapy frequently cause some anxiety, it devolves on us especially to feed the children mainly with milk during the first few days, on account of the danger of the occurrence of nephritis. As most children who are fed on milk in scarlatina escape an attack of nephritis, this measure should be also brought into use in diphtheria. It insures the normal action of the kidneys, and represents at the same time an adequate nourishment. Metabolism is accelerated by treatment with serum. Dr. Valette has shown that the urates and phosphoric acid are greatly increased. It stands to reason, however, that we should endeavour to diminish as much as possible the work of the kidneys. (*Pediatrics*, January 15, 1898.)

Diphtheria.—Serum Treatment of.

Kossel (*Deut. med. Woch.*, April 14, 1898) says that the mortality from diphtheria has been much diminished during the last few years, and that opinions can thus differ only as to the cause of the reduced mortality. The statistics are greatly in favour of its being due to the serum treatment, but a longer time must elapse before the final proof is forthcoming. In the Berlin Charité the mortality from diphtheria is both absolutely and relatively smaller; it has fallen to half what it was in the previous period of four years. In a second table the author gives the mortality from diphtheria in the Berlin hospitals and also the total mortality from the same disease in Berlin. Here

it is shown that this total mortality in 1896-7 has only just equalled the mortality which used to prevail in the hospitals in the most favourable years. In the beginning of the serum treatment the fact that larger numbers of diphtheria patients were sent into hospital has been adduced to explain the lessened percentage mortality, but the mortality during the last two years has remained much the same as during the first two years of the serum treatment. The mortality stands at one-third what it was. The mortality in other German towns has also decreased. Thus their death-rate from diphtheria from 1886 to 1894 was 106 per 100,000, whereas during the last three years it has only been 44. In Paris the death-rate has also fallen. The very favourable impression made upon physicians by the serum treatment is thus confirmed by statistics. The fall in the death-rate cannot be a matter of chance or independent of the method of treatment. (Epitome, *British Medical Journal*, May 21, 1898.)

Diphtheria.—The Serum Treatment of Utero-Vaginal.

Croffi, of Naples (*Gazzetta degli ospedali*, 1897, No. 67; *Centralblatt für Gynäkologie*, February 5, 1898), reports a case in which, three days after a normal labour, the patient was attacked with fever. The temperature rose rapidly to 105·8° F., the vulva became œdematous, and the vaginal portion of the cervix uteri was covered with a whitish membrane. The history was that the woman had been exposed to several diphtheritic children. Seventy cubic centimetres of antidiphtheritic serum were injected gradually. The fever abated, the membrane was shed, and complete recovery took place. Loeffler's bacillus was found in the cast-off membrane. (*New York Medical Journal*, February 19, 1898.)

DIPHTHERITIC PARESIS Cured by ANTITOXIN.

Silvestri (*Rif. Med.*, January 8, 1898) reports the case of a child 10 years of age who had an attack of diphtheria on November 1 lasting four or five days, and untreated. On November 8 nasal regurgitation took place; on November 12 slight strabismus, paresis lower half of the face, disappearance of pharyngeal reflex and knee-jerks, inability to stand or walk without falling. On November 13 an injection of 10 c.cm. of antidiphtheritic serum was given and repeated. On the seventh day slight improvement set in, and by the twenty-seventh day the child was completely cured. In the author's opinion this was due to the treatment adopted, and not to the lapse of time; and he reports the case as an example of the benefit of antitoxin treatment even in the paralytic stage of diphtheria. (Epitome, *British Medical Journal*, February 19, 1898.)

DIPSOMANIA.—Its Treatment.

The *sine quâ non* of the sound treatment of every form of narcomania is the "stoppage of supplies." If the poisoning process go on there will be no cure. An important practical question arises as to whether the withdrawal of the poison should be immediate or gradual. I always aim at immediate withdrawal, which I have invariably followed in alcoholic cases. Not only is immediate withdrawal safe, but this is the only safe course. So with ether, chloroform, and chloral. But with opium, morphine, chlorodyne, and cocaine, while in many cases achieving sudden cessation of the drug with safety and little discomfort, in other cases the digestive distress, emesis, diarrhœa, dysentery, and other affections have been so grave and perilous that it has been necessary to proceed by way of gradual reduction: though at one time I spread the period of reduction over some three weeks, I now endeavour to limit this by one-half, or from seven to eleven days. The first day only half the average dose is given, rapidly diminishing day by day. The last one-tenth of a grain has usually given more trouble than all the preceding reductions. Alike in the alcoholic and allied varieties, and in the opiate and cocaine varieties, a light farinaceous and milky dietary is prescribed, with rest, for a few days, the appetite for ordinary food usually soon returning. Effervescents, with or without the bromides, are generally valuable at this stage. To these succeed nervine tonics, of which nux vomica and strychnine (the former preferable) and arsenic are the most useful. With these, or other medicines, as the patient regains tone, air, exercise (especially muscular), graduated bodily occupation, and mental exertion, the healthful and elevating influences of music, the fine arts, intellectual pursuits, morals, and religion are combined, under sound hygienic conditions. Intercurrent maladies, as well as those which preceded and incited narcotic indulgence, must be dealt with. It appears to me to be a duty to utter a word of warning against resort to alleged "cures," disclosed or undisclosed, medicated wines mostly containing alcohol, opium, cocaine, or other narcotic, and hypnotism, from all of which I have seen considerable mischief arise, even when a "cure" of the particular variety treated seemed to have been effected. In not a few instances a permanent cure has been the fortunate issue when the narcomaniac has been treated at home; but in a large number of cases the only human hope of cure is residence in a special institution, within the premises of which no alcoholic or other intoxicant is allowed. Therapeutic seclusion is the forlorn hope of many. (From Dr. Norman Kerr's paper in the *Temperance Review*, April, 1898.)

DOSAGE IN CHILDREN.

N. C. Pedersen has come forward with a new method of estimating doses for children, for which he claims (1) entire fitness and safety of the tentative dose of any drug for any age under most circumstances; (2) accuracy and convenience of mathematical application; (3) constancy of dose increase from year to year. The method is on the basis of one-twentieth of the adult dose for each year, and is founded on the assumption that at 20 years the patient would take the full adult dose. His formula is, X (the dose) = $\frac{D}{20} \times A$, D being the full adult dose, and A the age of the patient. The method is equally applicable to the apothecaries' and the metric system, and is extremely simple in application.—*New York Medical Journal*, January 22, 1898. (Pediatrics, February 15, 1898.)

DOVER'S POWDER.—The Employment of.

In the so-called rheumatic diseases, says M. Liégeois, in the *Journal des praticiens*, 1897, No. 16 (*Gazette hebdomadaire de médecine et de chirurgie*, February 6), the sudorific and sedative action of Dover's powder may be made use of in the following manner:—The patient remains in bed, wears a flannel gown, and is covered with blankets. If it is an ordinary case in adults, ten grains are given in three doses at hourly intervals. As soon as perspiration sets in it is well to give a very hot aromatic drink in the intervals between the doses. When sudation reaches its height it is maintained as long as it is desired, for twelve hours if necessary, by keeping the patient covered with blankets. Dover's powder is a valuable remedy in the beginning of measles and scarlet fever, when the eruption is not well developed, and if much fever and agitation exist. A single dose of four or five grains will cause copious perspiration in children. The author never gives this powder to children under four years of age, and always administers it in one dose. The hoarse cough in the beginning of measles is always very favourably influenced by the following mixture:—℞ Dover's powder and washed sulphur, three grains each; M. In the beginning of influenza Dover's powder is also useful; it considerably ameliorates the catarrhal laryngitis and tracheitis, the pains in the limbs, and even the fever. (*New York Medical Journal*, March 12, 1898.)

EGYPT AS A WINTER RESORT.

Dr. Canney says:—"The feature of the Egyptian climate which has always attracted the most attention is the dryness of the air, and this has been the more noticeable in Upper Egypt, where the rainfall is hardly measurable. If the relative humidity is considered, there is no known health resort which can even

approach the climate of Upper Egypt in dryness; it is even considerably dryer than the high altitudes of Colorado." The cases deriving the greatest benefit from the climate of Egypt are, according to the conclusions arrived at by medical men who live in Egypt and have made a study of the subject, mostly diseases unknown or rare in that country, as phthisis, asthma, bronchitis, gout (and its attendant disease of the arterial, renal, and cardiac organs), Bright's disease, insomnia, rheumatoid arthritis, dyspepsia, and sciatica; while the list of unsuitable cases given are phthisis, with very acute symptoms or tendency to diarrhoea, or repeated pleurisy, or involved larynx, or active disease of both lungs, all heart affections, chronic diarrhoea, tuberculous kidney. (From a leading article in the *Medical Record*, March 5, 1898.)

EASTBOURNE.

Cases which do well at other seaside stations do well at Eastbourne. All forms of strumous disease of children do well, and threatened cases are prevented by a prolonged residence. Many persons reside in Eastbourne for the benefit of their children's health, and others send their children to schools in the place with the same object. Convalescents from acute disease and surgical operation, chronic bronchial, rheumatic, nervous, and cardiac cases also do well, and the place is specially useful in cases of sleeplessness from overwork and nervous exhaustion of any kind. Gastric complaints in old people do well in spite of, and possibly in consequence of, the hardness of the water, and the same is true of chronic gout. Eastbourne has made no special claim hitherto to treating cases of phthisis, but seeing that it has a marine climate with winds laden with ozone coming direct from the sea, a very equable temperature and great facilities for open air treatment, such cases might be expected to do well, and certainly should be tried under proper conditions. Dr. Theodore Williams has shown that phthisical cases do better on sea voyages than at English or Continental resorts, and conditions which most nearly approach those of a ship at sea must be most favourable to recovery from such diseases. It is the marine surroundings of the ship and not its movements through varying climes which are beneficial, and the result would be the same if the ship were anchored in the Channel in such a position as to be under the influence of the sea climate. The chief expense of sea voyages is due to the movement of the ship, and this could be reduced very much by such a stationary marine hospital. Eastbourne possesses more of these conditions than the other south-eastern stations, though less, perhaps, than some towns, like Penzance, on the south-western coast. (*Quarterly Medical Journal*, January, 1898.)

ELECTRICITY, DEATH BY.

Dr. Wyatt Johnston reported five cases to the Montreal Medico-Chirurgical Society, January, 1898, in three of which death was due to the passage of the electrical current through the body. In one of the others a motor man, having climbed to the top of his car to look after the trolley wire, received a shock which caused him to fall to the ground. He picked himself up and was sent home, but died a few hours later from what the autopsy showed to be a fracture of the base of the skull, with intracranial hemorrhage. The medico-legal diagnosis was very easy in this instance, but was less so in the second case, where a line-man working in wet weather on the cross bars of a telephone pole received a shock from an electric light current which had fouled a telephone wire. He was seen to fall to the ground and died a few minutes later. An autopsy by Dr. Villeneuve showed the cause of death to be hemorrhage at the base of the skull, some of the blood having been inspirated into the lungs and finer bronchi. Examination made independently by both himself and Dr. Villeneuve showed no signs of burning on any part of the body. The company were held responsible, although the fact that death was not due to the shock was evidenced from the time that must have elapsed to allow the blood to be drawn into the lungs. Another case (communicated by Dr. Villeneuve) was that of a man who picked up one end of a broken live wire to show that there was no danger in so doing. The marks of the burning were present on the hands and ecchymoses on the surface of the body. No autopsy. In another case a man made a connection between two wires by stepping on one while the other was touching his arm. The leather in the sole of his boot was burnt and his jersey charred, but the burns upon the skin were of very slight degree—an interesting point. A man received the fatal shock from a badly insulated wire while sitting between two other men upon the cross-bar of an electric-light pole. Some minutes elapsed before the body was taken down, and during this time the current was passing. The burns here also were extremely slight, in spite of the long exposure, and no second point of contact could be found. A small morsel of a clay pipe which the man held between his teeth was inspirated into the smaller bronchi, and the blood at the autopsy was found fluid, and remained so for one week. This condition was due to the continuous passage of the current, other causes of absence of clotting having been examined for and excluded. It was not generally known that not only the fatal shock but also the typical changes could occur with such slight lesions through contact with a live wire. (Montreal Medical Journal, January 1, 1898.)

FORMALDEHYDE DISINFECTION WITHOUT APPARATUS.

The Chicago Health Department claims to have obtained better results in recent municipal disinfection by the use of formalin without any apparatus than heretofore with the various autoclaves, generators and other devices. Ordinarily sheets, suspended in the room, were simply sprayed with the 40 per cent. solution through a common watering-pot rose head. A sheet of the usual size and quality will carry from 150 to 180 c.c. of the solution without dripping, and this quantity has been found sufficient for the efficient disinfection of 1,000 cubic feet of space. Of course, the sheets may be multiplied to any necessary number. Cultures, both moist and dry, were exposed for five hours in these experiments—some in sealed envelopes and others wrapped in three thicknesses of sheets, or folded inside of woollen blankets. Of the former, none showed growth after seventy-two hours' incubation while the growth was but slight in those wrapped in the blankets. Surface disinfection was thorough, while a much greater degree of penetration was shown in these experiments than that secured by any other method. The evolution of the gas from the sprinkled sheets is exceedingly rapid, so much so that it behoves the operator to vacate the room within a very few seconds, while, after starting the ordinary generator, he may remain ten minutes or more without serious inconvenience. When the room is opened, after five hours, the density of the gas is still so great as to preclude respiration until after doors and windows have been opened some little time. On the other hand, the air is respirable within a very few minutes after the sheet has been removed, and there is no lingering smell of formaldehyde for days after, as is the case where the gas is evolved by the action of heat. This is due to the fact that a minimum of the paraform is produced in the evaporation of the solution at the ordinary temperature, and this is retained in the meshes of the fabric instead of being precipitated on surfaces, to be slowly converted into the gaseous form through several days. (Journal of the American Medical Association, April 23, 1898.)

FUNGI, EDIBLE AND POISONOUS.

In edible varieties the flesh is usually firm, but tender, and the odour and taste pleasant and agreeable, resembling fresh meal or hazelnuts. Many of the wholesome kinds are dangerous when old or over-mature, and some of the noxious ones become wholesome when properly cooked. Cases have occurred in which unpleasant or serious results have followed from eating well-known esculent fungi; such may have been due to idiosyncrasies of the victim or simply to over-eating. I have

thought it possible that ptomaines might be developed under favourable conditions; this and the comparative indigestibility of fungi should be investigated more fully than has been done. The only sure test of wholesomeness is the hackneyed one of eating them first and letting the result be thus determined. (From Dr. Buckham's paper in the *Medical News*, January 22, 1898.)

GLANDERS, CHRONIC.

In the *Archiv. f. Dermatologie und Syph.*, Dr. A. Buschke relates a case that occurred in the Greifswald Klinik. The patient was a man, aged 73, who, for a year and a half, had had certain ulcers on his hands—on the dorsal side of the right index finger, and occupying the whole extent of the base and middle phalanges was an irregularly kidney-shaped ulcer, deeply penetrating, so as in some places to expose the tendons. The edges were sharp and the surface covered with tenacious pus. Similar but smaller ulcers and numerous cicatrices were present on the back of the hand and wrist. The affection at first gave the impression of syphilis, but culture from the pus and injection into the abdominal cavities of male guinea-pigs, after the method of Strauss, showed that the case was one of chronic glanders. It was now ascertained that, as a matter of fact, the patient had had to do with glandered horses. In veterinary practice injections of malleine were often made use of for diagnostic purposes; they are supposed to make evident the slightest traces of internal glanders by rise of temperature with characteristic fever curve. In the present case they were not made use of until after the ulcers had been freely excised and the surfaces cauterised with the Paquelin cautery. After this it appeared desirable to test whether all the disease had been removed or whether some remained in one or other internal organ. Four doses of from 1 mgrm. to 1 cgrm. were injected at intervals of four days but no reaction set in. A year and nine months after operation the man still remained healthy. The case was interesting, in that the disease occurred in an extremity and remained limited to it, instead of occupying, as it usually did, on the mucous surface or on the face. (*Medical Press and Circular*, December 22, 1897.)

GOUT.—Pathology and Treatment of.

Dr. Arthur P. Luff considered that the first step in the pathogenesis of gout was a failure on the part of the kidneys, from functional or organic mischief, to perfectly excrete the uric acid formed in them, and that, consequently, absorption of the non-excreted portion takes place from them into the general circulation, where it at first exists in the form of sodium

quadriurate, and so forms the source from which the gouty deposit is derived. His view was that uric acid was formed in the kidneys by the combination of urea with glycocine, or with one of the derivatives of the latter body. He brought forward evidence to show the erroneous nature of the views held as to a diminution of the alkalinity of the blood promoting uratic deposition whilst increased alkalinity of the blood is supposed to cause solution of the deposit, and claimed that in the light of recent experimental evidence such views are untenable. The gout-inducing properties of certain wines and beers he considered as due to the effect on the liver by increasing the amount of glycocine passed to the kidneys, and so causing an increased production of uric acid in those organs. He advocated the necessity of attention to the personal factors, and the desirability of determining from time to time the daily output of uric acid. To promote absorption and elimination he advised citrate of potash, copious draughts of water, hot baths and massage, and a table salt prepared from vegetables in place of common salt. When a mineral water is employed it should be as free as possible from sodium salts. (From the Medical Press and Circular, January 19, 1898.)

GRAVES'S DISEASE, ACUTE.

The patient, a woman, aged 33 years, first noticed, about three months ago, an enlargement in her neck, and about the same time her friends informed her that her eyes were more prominent than usual. She consulted a medical man, who told her she was suffering from exophthalmic goitre. A month ago she was greatly emaciated, and showed the ordinary signs of Graves's disease. The tumour was of moderate size; it presented visible pulsation to the eye and a distinct thrill to the examining hand. The eyes were prominent, but not to a marked degree, and she could close her eyelids completely. Von Graefe's sign was present. The pulse was thready, 160, and regular. A loud systolic bruit was heard over the thyroid gland. The heart was slightly enlarged, and a systolic murmur was heard at the apex beat. Nothing abnormal was detected in the lungs, and as far as I could determine there was no enlargement of the thymus. The temperature was normal. The urine was acid, specific gravity 1023, and contained no albumen. At the time I first saw her she was suffering from persistent vomiting, which continued, in spite of all treatment until her death. For three weeks she took no food of any kind, with the exception of one small cup of milk, which I gave her myself, and which she vomited a few minutes afterwards. I first treated her with large doses of digitalis combined with bromide of potassium, but as she failed to keep it down it was replaced by small doses

of morphia taken every hour and digitalis tabloids. In spite of several changes in her medicine the vomiting persisted without interruption. Each day she became more emaciated. Rectal feeding was suggested, but was not received with favour either by the patient or her friends. At this stage her pulse reached over 200 a minute. She developed a troublesome and painful cough. The muscles of the pharynx and larynx became paralysed, so that what little water she took immediately choked her, and her voice became altered, weak, and nasal in tone. The urine and fæces were scanty and offensive. Slight jaundice was present. Finally, after having become reduced almost to a skeleton, she died, still retaining her senses until the end, although there was some slight delirium at night. In this case the disease ran an unusually rapid course, as my patient lived just three months after the symptoms first made themselves apparent. (From Dr. E. Harvey Sutcliffe's paper in *The Lancet*, March 12, 1898.)

HEAT AS A THERAPEUTIC AGENT.

Bosányi (*Pester med-chir. Presse*, October 24, 1897) commences a study of this subject. He first refers to the disputed question of the superiority of the natural hot springs over the artificial substitutes. Hot baths have been used with success in puerperal eclampsia, and hot douches and applications have been found of value in certain diseases of women. The author then refers to the treatment of anæmia by diaphoresis and bleeding, which he appears to look upon as a possible substitute for the iron treatment. In the acute infective diseases, such as diphtheria, cholera, influenza, hot baths, or the local application of heat, has proved to be of service. Epidemic cerebro-spinal meningitis has been treated with remarkably good results by baths at 36° to 41° C. In certain skin diseases, mostly chronic, the hot bath is a valuable remedy. In some circulatory diseases, with dropsy, diaphoretic baths are serviceable. The use of heat as a therapeutic agent has undoubtedly its limits, and, under some circumstances, is contra-indicated. The author refers to the quickening of vital processes under its action. Chronic diseases are those which are most adapted to this treatment. (*Epitome*, *British Medical Journal*, November 20, 1897.)

HOT-AIR TREATMENT.

(From Drs. Kirby and O'Malley's paper.) We believe that the application of dry heat will find its greatest use in those cases of acute origin, such as sprains, tendinous inflammations, acute muscular strains, acute rheumatic conditions, and as an after-treatment of fractures and dislocations, to promote and aid the elimination of effete substances through the skin, by sweating

and through the lymph channels, increasing the blood-supply and thereby the nutrition of the part. We think it is absolutely contra-indicated in cases of rheumatoid arthritis, and of but little value in chronic rheumatic affections. We believe with Dr. Wood that the general sweating has something to do with the relief of these cases. Little experimental work in the line of tuberculosis has been done, but the brilliant results obtained in our one case encourage us to further investigate this matter. We are now doing some experimental work with the view of ascertaining whether the application of a high degree of dry heat will in any way facilitate the penetrating power of ointments. One can readily see the boon to syphilographers if the permeability of inunctions be furthered, thus enabling one to rapidly saturate the system with physiological doses of mercury. Our experiments also have led us to believe that if an apparatus could be constructed enabling one to adapt this method of dry heat in pulmonic congestions, the vasomotor dilatation ensuing, literally bleeding one into his own arteries, many distressing and dangerous symptoms, as cyanosis and dyspnoea, might be relieved or mitigated. It seems to us that this subject is well worth further investigation. (*Therapeutic Gazette*, November 15, 1897.)

INFECTIOUS DISEASES, THE SPREAD OF, BY MEANS OF BATHS AND SUMMER RESORTS.

The following propositions are laid down by Dr. Battlehner (*Vierteljahrssch f. öff Gesundheitspfl*, 1898, vol. xxx, p. 22), of Carlsruhe, at the close of a discussion by the German Society of Public Health, with reference to public resorts, camp-grounds and places where people congregate in large numbers:—(1) It is quite possible that summer visitors may carry and spread infectious diseases at bathing-places and summer resorts. (2) In such places care should be taken to secure a good water-supply. The buildings should be provided with good sanitary arrangements. The streets should receive especial care, the sweepings should be regularly collected and taken care of, and the foul water and surface drainage should receive attention. (3) Where bathing tanks are in use, the water should be frequently renewed and examined. (4) Sanitary police regulations should be enforced as in other places. (5) Notification of infectious diseases should be required of all physicians as a means of preventing their spread. (6) Disinfecting apparatus and well-instructed attendants should be provided. (7) If there is no hospital a separate room should be provided for persons ill with infectious diseases. (8) There should also be a house for the reception of dead bodies. (*Boston Medical and Surgical Journal*, April 21, 1898.)

KRYOFINE.

The conclusions we have drawn from its rather extensive use are as follows:—As an antipyretic, while not reducing the temperature so rapidly nor so markedly as the other coal-tar products, it is certainly very efficacious, at the same time being a safer remedy than the other members of the group, and its diaphoretic action being much less marked. As an analgetic, it is at least equal to the other members of the group, with the advantage that it is sometimes effectual where the others have failed. As a hypnotic, when insomnia is due to causes other than that of severe pain, it is of decided value, and probably superior to the other members of the group. The clinical notes of some cases in which kryofine was administered, prove that in several instances the results were so striking as to merit notice. (From Drs. Haas and Morrison's paper, *New York Medical Journal*, March 26, 1898.)

LACTOPHENIN, THE UNTOWARD ACTION OF.

Dr. Armin Huber reports an instance of a 50-year old woman who had suffered for many years from hemorrhagic nephritis and commencing cirrhosis. During the past year she had emaciated and had suffered from headaches. During the month just past she had taken seven grains of the drug without the slightest inconvenience. One day she took four grains in the morning and early in the afternoon seven more. Later she noted a prickly-heat in the head, swelling of the face, and in the evening she experienced a chill, which was followed by fever and a severe headache. The next morning there were erythematous patches, the size of a silver dollar, upon the face, severe swelling of the upper lip, and upon its inner surface vesicles the size of a bean, and bloody ulcerations of the same size. The tongue was enlarged, so that its movements were difficult, and upon its right inferior surface an ulceration which was coated with fibrin. There was severe *fœtor ex ore*. The vagina burned and itched; on the right *labium minus* was found a small ulcer accompanied by œdematous swelling and leucorrhœa. This attack produced no change in the urine, neither increasing the blood nor albumen; the quantity and specific gravity were not altered, the itching gradually diminished, and the ulcerations healed without scar. After eight days convalescence was established. So severe symptoms from lactophenin are rare. Macular exanthemata and icterus have, however, been recorded. —*Correspondenzblatt für Schweizer Aerzte*, 1897, No. 24. (American Journal of Medical Science, March, 1898.)

MALARIA.—Large Doses of Quinine not necessary.

It was beginning to be recognised that the enormous doses given in the past were not of any particular value. If we

regarded the quinine as acting directly upon the malarial organism, inasmuch as that organism was contained in the blood and not in any part of the body, it was possible to influence the blood by comparatively small quantities of quinine. It had been estimated that 5 grains of quinine dissolved in the blood would represent a solution having a strength of 1 to 10,000, whereas 1 to 20,000 had been shown to be sufficient, as it were, to paralyse the plasmodium. (Medical Record, January 15, 1898.)

Malaria.—Prophylaxis of.

The result of my experience is that quinine and cinchona febrifuge are the only drugs that have exercised any influence. By this means certainly a certain proportion of men have been enabled to perform their duties, and thus their services not lost to the army. Under these circumstances I would therefore urge that, in all campaigns involving a sojourn in a malarious district, prophylactic issues of either of these drugs be ordered. Quinine is now manufactured at a much cheaper rate than formerly, and the services of our men could thus, at a slight expense to Government, be preserved intact to the army operating in the field. (From Surgeon-Major A. Duncan's paper in *The Indian Lancet*, March 16, 1898.)

Malaria.—Quinine in.

My conclusions are:—(1) As a preventive, quinine will not do for those who are compelled to live indefinitely in a severe malarial climate; in time, it will act as a vaso-motor poison. (2) Quinine acts nearly as a specific in all malarial fevers characterised by intermissions or well-marked remissions, but fails in the continued fevers, those with typhoid-like symptoms, those malarias without temperature, and the cachexias and anæmias due to malaria. (3) Proving thus that quinine is a poison to the plasmodium itself, but useless against the toxin manufactured by it. (4) Warburg's tincture, in the last condition, has an action, not yet understood, on the toxin (or the eliminative system), by which the system is put in condition to benefit by quinine. (5) Quinine should never be used in hæmoglobinuria, or given subsequently, to one who has suffered from it—being liable to bring about a recurrence of the condition. (6) Only those living in regions of severe malarias can become competent to settle these questions pro or con. (From Dr. J. G. van Marter's paper in *The Indian Lancet*, April 1, 1898.)

MEASLES.—An Early Symptom of.

Slawyk, of Heubner's clinic (*Deut. med. Woch.*, April 28, 1898) draws attention to the eruption present in the mouth during

the early days of measles, first described by Koplik. It consists of shining red spots, in the middle of which there are very minute bluish-white efflorescences. Slawyk says that Koplik's spots represent an absolutely trustworthy and early indication of the disease. During last winter an epidemic of measles broke out in some of the clinics of the Berlin Charité. These cases, along with those of Heubner's clinic, numbered 52 cases, and in 45 of these Koplik's spots were observed. In two of the remaining cases the patients were too ill to permit of a satisfactory examination of the mouth. The spots appeared on the mucous membrane of the cheek and sometimes of the lips. They are mostly few in number. A bright light is necessary, as they are not visible in a yellow light. They practically never run together. They are distinguished from thrush by their colour and their rounded contour. They may be picked off with the forceps without pain or bleeding, and they are then seen under the microscope to consist of large masses of epithelium undergoing fatty changes. They have not been observed in other acute illnesses. In every case where they were seen the measles rash followed, so that whenever they were present the child was at once transferred to the measles ward. Koplik's spots appear on the first or second day of the disease, and increase in numbers up to the time of the skin eruption; they usually further remain for three or four days, so that they last from three to six days. They produce no discomfort. In some cases of measles followed by a stomatitis they were absent. (Epitome, British Medical Journal, May 28, 1898.)

MILK IN THE SPREAD OF TUBERCULOSIS.

If we consider that children are most liable to intestinal tuberculosis, and are the great milk consumers of the community, it will be seen that from the preventive point of view it is milk supervision that is of the greatest moment to the public health. The danger is much less from meat, as has been experimentally shown, and this danger can be rendered practically *nil* by adequate supervision of trimming and dressing operations in the slaughter-houses. It is the consumption of raw milk that constitutes the chief channel of infection, and this can be overcome by simply heating milk up to the boiling point. As already stated, the butter and cheese made from the milk of tuberculous animals may contain the tubercle bacilli. It is to be regretted that Pasteurising processes are not in general operation where large quantities of milk intended for dairy and food purposes are concerned. This procedure would have the effect not only of destroying tubercle bacilli, but also other sources of infection from milk to which children are

liable, while at the same time a distinct advantage would be gained in the manufacture of butter and cheese. (From Dr. Allan MacFadyen's paper in the Practitioner, June, 1898.)

MORPHOMANIA.

(By Dr. Hale White, *Guy's Hospital Gazette*, March 19, 1898.)—As to the treatment, isolation is absolutely necessary, and it must be complete. If it is decided to keep the patient under the medical man's care, it will be necessary to accompany the patient to his new room and make him strip to the skin, otherwise he will secrete a bottle and syringe in his clothes. In the case of a woman, the patient must strip in the same way in the presence of a nurse. The morphia habit must not be stopped suddenly, but by degrees, and, if collapse is seen to be coming on, morphia is to be given to pull the patient through. Just before the collapse delirium appears, and suicide may be attempted, so that razors and other dangerous articles must not be left about. Codeina, one of the alkaloids of opium, may be given to diminish the craving, and chloral or the bromides to produce sleep. If the collapse is very severe, caffeine subcutaneously used will be a good stimulant, but in every case the patient must be fed up. In some cases it may be necessary to send the patients to a home where such cases are treated, but after a time they will tire of this, and then it will be necessary to send them abroad for travel, in charge of a medical man. (From abstract in Treatment, April 28, 1898.)

ORTHOFORM.

Einhorn and Heinz (*Ther. Monatshefte*, October, 1897) have discovered a local anæsthetic to which they have given the name of orthoform. It is a white, light, crystalline powder, without taste or smell. It is only slightly soluble in water, and therein lies its chief value. It dissolves just fast enough to cause a lasting anæsthetic influence. Its action is observed upon mucous membrane, granulation tissue, or the surface of a wound. Either as a powder or mixed in a salve it is especially adapted for use upon burns of the third degree, upon painful ulcers, carcinomatous or otherwise. The remedy is absolutely non-poisonous. It limits the amount of secretion, absolutely prevents putrefaction and fermentation, and as a stimulating, healing dressing for a wound it has much to recommend it. In painful ulcers of the larynx, a single treatment with this drug will reduce the smarting during a period of twenty-four hours. It may be used internally for the relief of stomach or intestinal pain. Its action is especially noticeable in ulceration and carcinoma of the stomach, but in cases of chronic gastric-catarrah or dilation little benefit is to be expected

from its use. The muriate of orthoform is freely soluble, and may be used internally, but is not adapted to subcutaneous injections on account of the intense pain which the acid solution occasions. On account of the lack of poisonous qualities it may be dusted upon surfaces *ad libitum*. In salves, a strength of 10 per cent. is recommended. Internally, from five to fifteen grains may be daily administered. (Medical News, December 4, 1897.)

PERONIN.

Stampfl treated the meeting (of the Vienna Medical Club) to some remarks on peronin, which, he said, was a substitute for morphia, and was admirably suited for all larynx and lung affections where the cough was troublesome. Reflex vomiting after attacks of coughing and pain were quite relieved with a reduction in the expectoration. In neuralgia, when not too severe, peronin was of great service. It was also beneficial in chronic bronchitis and congesting catarrhs. It produced a sort of itching on the skin from diaphoresis, although the latter is not constant. On the latter account it is contra-indicated in phthisis internally or as insufflations for throat affections. The dose is two to three times the quantity of morphia. In the discussion Stampfl was asked what effect the drug had on the heart. He could not give any guarantee beyond his own experience and Schrötter's clinic, where no untoward cases of this kind were observed. He had also used it freely among children without observing any bad effects. Another property of the drug was its freedom from causing any constipation. The dose was 0.02 gramme and should not exceed 0.06 gramme. The daily amount varies between 0.15 gramme and 0.2 gramme. (Medical Press and Circular, December 1, 1897.)

PICRIC ACID POISONING.

Apropos of the recent advocacy of the use of picric acid in the treatment of burns, it is well to call attention to two cases of poisoning with the drug reported at a recent meeting of the Paris Surgical Society by Walther (*Gazette hebdomadaire de médecine et de chirurgie*, January 27). They occurred in two children, one eleven and the other four years old, under the care of Latouche, of Autun. On the first application of compresses wet with picric acid solution, there was great pain for about half an hour and then the pain disappeared. Five days later, on the second dressing, the local condition was good but the pains recurred, and a 10 per cent. picric acid ointment was substituted for the solution. An amount of the ointment sufficient to contain 300 grains of the acid was used on each child. There was severe smarting, and at the end of 24 hours vomiting set in

and lasted an entire day, with colic, diarrhœa, and intense yellow coloration of the skin, somnolence, prostration, and scanty, dark-coloured urine. A second application of the ointment was made and the vomiting reappeared, to subside only on the removal of the dressing. Ten gentlemen discussed the matter, and most of them had observed cases of poisoning, more or less severe, from the treatment of burns with picric acid. (New York Medical Journal, March 5, 1898.)

PLAGUE.

As the number of observations of the various scientific commissions increased, it became evident that at least three forms of the plague could be distinguished, possibly a fourth :—

- (1) The “bubonic” form. This was most frequent, and was characterised by great enlargement of lymphatic glands.
- (2) The “septicæmic” form, characterised by the absence of any obvious enlargement of lymphatic glands, and by the presence of high fever, delirium, and early collapse (German commission).
- (3) The “pneumonic” form, in which there was no obvious enlargement of the lymphatic glands, but in which the symptoms of broncho-pneumonia were present (Childe).
- (4) The “intestinal” form? Only one case of this possible form was brought to our notice, but symptoms were so characteristically intestinal that it is possible that further observations will show that it belongs to a separate class. Briefly, the case was that of an European, whose illness began suddenly with fever—frontal headache—sleeplessness and delirium. The tongue was furred, gurgling and tenderness in the right iliac fossa were present, and several ochre-coloured diarrhœic motions were passed in the 24 hours. Tympanites set in, and the case progressed to a rapidly fatal issue. Prior to death buboes appeared in both inguinal regions. (From Surgeon-Major Calvert’s paper, *The Indian Lancet*, November 1, 1897.)

POTASSIC CHLORATE.—Poisoning by.

Dr. Paul Jacob (*Medical News*, October 23, 1897) presents this case in detail: The patient entered the hospital in a comatose state 30 hours after she had taken chlorate of potassium—it was learned later she had purchased about 25 grammes of this drug—and improved very much, but died suddenly on the sixth day of heart failure. During her illness examinations of the urine and careful blood examinations were made, which showed the effect of the drug on these two fluids. The writer closes by saying that chlorate of potassium should be used neither as an internal medicine nor as a gargle. The latter use should be especially avoided for children, as they are apt to swallow some of the fluid when gargling. Many articles show that chlorate of

potassium, even in small doses, is a strong blood poison, and even if death does not ensue a hemorrhagic nephritis very frequently results. (Boston Medical and Surgical Journal, December 16, 1897.)

PYRAMIDON.

The value of this new form of antipyrine (*vide Journal*, vol. 29, page 1318) is confirmed by the results announced from v. Limbeck's clinic, where it has been tested in a hundred cases of various diseases. Its antipyretic effect in chronic tuberculosis was highly satisfactory in thirty-two cases out of forty, and it was so successful in nine cases of articular rheumatism that it is recommended as a substitute for salicylic acid whenever there is intolerance. The fever not only subsided, but it seems to have a specific effect on the rheumatism, 1.5 gram in fractional doses during the day. Its analgesic effect was also striking in migraine, trigeminus neuralgia, and other nervous pains, for which it is especially recommended. The effect is slight in chronic rheumatism, negative in malaria and nervous tachycardia, and there was intolerance in two tuberculous patients.—*Wien. klin. Woch.*, November 4. (Journal of American Medical Association, January 15, 1898.)

RHEUMATISM, ACUTE, WITH HYPERPYREXIA.

(By Drs. J. S. and O. Withers.) At the end of May and early in June, A. A., aged 28 years, was suffering from apparently an ordinary attack of acute rheumatism, without cardiac complication, but his condition had latterly given rise to some uneasiness, as his temperature was rather erratic, and showed little disposition to fall even when the swelling and pain had disappeared from the joints under the influence of large doses of sodium salicylate. On the evening of June 5 the patient was quite comfortable; joints free from pain; temperature 103°. On the morning of June 6 we were summoned hurriedly, as the patient had been unconscious for some time, and his appearance had much alarmed his friends. He was found to be very deeply comatose, with reddish-purple countenance, convulsive twitchings of the limbs and face, and he had a petechial rash scattered over the body. The fæces were passed involuntarily. As hyperpyrexia was expected to account for the condition, the temperature was taken, and in a few moments the thermometer had reached 110° in the axilla. The patient was quickly placed in a large bath of cold water, which was kept reinforced by buckets of cold water from the cellar as the warmed water was allowed to escape. The temperature gradually fell, and after being in the bath for nearly a quarter of an hour he was carried to bed, and wrapped in blankets, with hot bottles to the sides

and feet, and ether was injected subcutaneously. He gradually recovered consciousness, and took a little warm milk and chicken broth. About 1 o'clock on the following morning it had already reached 105°. The patient was carried on a blanket to the bath and immersed again. He was quite conscious, free from shivering, and much enjoyed the coldness of the water. When the temperature fell he was removed to bed again, and was extremely comfortable for several hours. On June 7 he became very delirious, though he answered quite rationally when spoken to. During the night the temperature reached 103°, but was kept under control by frequently-applied wet packs to the trunk. As the delirium increased and coma vigil came on, his head was shaved, and a blister applied to the scalp. On June 8, as he was still somewhat delirious, an icebag was applied to the head, and he became quiet, and slept at intervals. In the evening the temperature was 102°. Food was taken well. On June 9 his right ankle was red and swollen; he was quite free from delirium and the skin was moist. On June 11 he was aphasic, though quite rational, and had a free and constant action of the skin. On June 16 it was noted that for some days he had been quite comfortable, though the temperature had occasionally reached 103°, and required frequent application of the pack. He gradually from this time recovered strength and vigour. The speech difficulty and defect of memory, of which he much complained, were, as one might expect, the last effects of the hot blood on the cerebral centres to disappear. (*British Medical Journal*, April 9, 1898.)

RHEUMATISM.—Local Treatment of Pain.

(By Dr. Lemoine, *Le Nord Méd.*, February 1, 1898). The author points out that in all cases it is not possible to use salicylates, owing to idiosyncrasy. In such cases resort must be had to external applications applied to the painful joints. The author specially mentions salicylate of methyl, salicylic acid, and guaiacol. Salicylate of methyl, when painted on the skin over the joint by means of a brush, is quickly absorbed by the skin, and soothes effectively the pain. It should be applied once or twice a day, the application being covered with lint, over this cotton-wool being placed. But, applied in this way, the salicylate of methyl evaporates quickly, and the author frequently employs it in the form of ointment, with vaseline, in the proportion of—Vaseline, 20; salicylate of methyl, 12. Salicylic acid acts in the same manner in relieving pain, but less powerfully and less certainly. On the other hand, it has no smell. The author uses an ointment of salicylic acid in vaseline in the proportion of 4 to 20, and he often adds salicylate of soda to the acid with good results. He gives the following formula :

—Salicylic acid, 4 ; salicylate of soda, 3 ; extract of belladonna, 1 ; vaseline, 25. Dr. Lemoine finds that salol is particularly effective in gonorrhœal rheumatism. Being very insoluble, it must be dissolved in ether. He gives the following formula :—Salol, 4 ; menthol, 2·50 ; ether, 4 ; lanoline, 30. Guaiacol is an active anæsthetic to the skin, and, as the author points out, its antipyretic action may be exerted to an untoward extent through absorption from the skin. It quickly removes severe pain in rheumatism of joints, and in acute rheumatism appears also to exert, by absorption, an antipyretic effect on the disease itself. The author recommends a combination of the drug in alcohol, in the proportion of 4 of guaiacol to 20 of alcohol ; also in the form of ointment—Vaseline, 25 ; guaiacol, 4. He uses an ointment composed as follows :—Guaiacol, 4 ; salicylate of methyl, 5 ; salicylic acid, 2 ; vaseline, 30. This combination is efficient, but has a disagreeable odour. Dr. Lemoine finds these different ointments very useful in cases in which exacerbations of rheumatic pain occur in those intractable cases in which the temperature is low—the kind of case rebellious to the action of salicylate of soda, which is usually beneficial in direct proportion to the height of the temperature. (From abstract in *Treatment*, April 28, 1898.)

RHEUMATISM, THE BACILLUS OF ACUTE ARTICULAR.

At the meeting of the Hospital Medical Society, Paris, held on Christmas eve, MM. Triboulet and Coyon reported that they had made sundry researches in cases of acute rheumatism to see if they could find Achalme's bacillus in the blood. In every case they were able to isolate and cultivate a special kind of diplococcus completely different from the organism sought. Twice, however, they found this latter in association with the other, and in each case the rheumatism was very severe and complicated. These observers also found this diplococcus in cultures made from a body which had, upon post-mortem examination, yielded Achalme's bacillus. It is an oblong coccus always occurring in pairs, about 2μ in diameter, to some extent anærobic, and is not decolorised by Gram's method. Achalme's bacillus seems to accompany the graver forms of rheumatism, and to be the special cause of complications. It is possible that this new diplococcus of Triboulet is the real microbe of rheumatism, always assuming that these interesting observations are not contradicted by subsequent research. (*The Lancet*, January 15, 1898.)

RHEUMATOID ARTHRITIS.—Lycetol in.

Norwood (*Med. Times and Register*, November 6, 1897) says that the most that can be hoped for in rheumatoid arthritis is an

arrest of its progress for a longer or shorter time and relief of the pains in the affected articulations. Galvanism, massage, baths, and an invigorating diet have been found of more or less value, as well as the administration of cod-liver oil, ferruginous preparations, and the iodides. A comparatively new remedy which seems to have a promising future before it in the treatment of this disease is lycetol. One of its distinct advantages is that, owing to its pleasant taste and freedom from irritating effects, its administration can be continued a long time. In two cases recently treated by Norwood the results were encouraging. (Medical News, April 16, 1898.)

SCARLATINA, MALIGNANT.

Dr. Trevelyan read, before the Leeds and West Riding Medico-Chirurgical Society, March 5, 1898, notes of a case in a patient, aged 25. The illness began within twenty-four hours after exposure. A patchy rash appeared on the second day, and some petechiæ on the fourth day. There was diarrhœa and blood-stained discharge from the nose and throat. An almost continuous pack moderated the high temperature, and to a still greater extent the delirium and restlessness. There was total inability to swallow from the eighth to the twelfth day, suggesting at first a complicating diphtheritic infection with early paralysis. Rectal feeding had to be solely relied on during this time, as nasal feeding proved impossible. Death occurred on the thirteenth day from a deglutitive broncho-pneumonia. Dr. Trevelyan raised the question whether the injections with anti-streptococcus serum should have been further pushed in this case. (British Medical Journal, March 5, 1898.)

SCARLET FEVER.—A New Symptom of.

Meyer (*La Presse Med.*, March 5, 1898) describes a new symptom for the diagnosis of scarlet fever which he has observed in 80 per cent. of the cases of this disease in adults. The symptom appears at the time of the eruption, when the patient complains of a weakness or numbness of the extremities and a sensation of tingling or a creeping feeling in the palmar surfaces of the hands and fingers. Associated with it is a certain amount of congestion, which may be the only thing noticed until the patient makes some little exertion, such as an attempt to take a glass of water. No pain accompanies this symptom. It may easily be confounded with (1) the itching which often accompanies the appearance of the eruption; (2) the swelling of the extremities, which may also accompany eruption and interfere with the free movements of the fingers; (3) the stiffness produced by scarlatinal rheumatism. This is, however,

a painful affection, and has its maximum manifestation in the joints, so that the two should be readily separated. In cases of supposed scarlet fever this symptom may aid in establishing the true diagnosis. It may also be of value in cases of delayed or scanty eruption. Meyer has never seen it in connection with other eruptive fevers. It is wanting also in the eruptions of the grippe, of tonsillitis (either simple or diphtheritic), and in toxic and medicinal erythema, including that produced by mercury, in which the diagnosis is often perplexing enough. (*Medical News*, May 7, 1898.)

SPLEEN EXTRACT.—The Therapeutic Value of.

Dr. A. Campbell Clark states, in brief, that this substance aids digestion and nutrition, increases the cutaneous circulation, and stimulates the glandular activity of the skin. In a series of patients suffering from most intractable conditions—chronic inertia, mental and physical—treatment lasting over a year resulted in no mental improvement in several, slight in a few, and recovery in a few male cases. In another series, including recent instances of insanity—the mental breakdown being due to physical exhaustion, patients suffering from prolonged lactation, puerperal weakness, anæmia, anorexia, and nervous exhaustion—the results were more prompt and decided in the majority, not only physically, but soon after mentally, some being restored completely, while of a greater number it could only be said that they were improved. The results as to special points were as follows:—(1) Pulse and temperature. The character of the radial pulse, as judged by sphygmographic tracings, taken before and several times during treatment, has not yet been definitely determined. In this investigation they point rather toward a lowering of blood-pressure than the reverse; but they do this in no decided manner. There is no doubt that it increases the pulse-rate from 5 to 15 per cent., and raises the temperature from $\frac{1}{2}^{\circ}$ to 1° in the majority of cases. (2) Appetite and digestion. In some the appetite was improved; in many more digestion improved, without any relish for food. This is probably due to the fact that this substance is rather nauseating to some. In some instances increased salivation has been noticed. (3) Bowels and urine. In a few instances it appeared that the bowels were more active than formerly; in others no change was observed. Further attention should be directed to the urine. (4) Weight. While rise of weight in some instances was phenomenal, in others it was very moderate. One positive fact came out clearly, namely, that increase in weight, however slight, was the rule, and the exceptions were very few. (5) Blood. The results have been inconclusive in the case of male patients, with two remarkable exceptions; but on

the female side positive improvement was more uniformly observed. This is probably due to the fact that their blood was poorer to start with, and hence the improvement was more manifest. (6) Effect on skin and hair. Increased colour and warmth of skin have been noted, also softness and elasticity; in some a slight oily feel, in others a moist condition, due evidently to gentle perspiration. It is not merely a case of determination of blood to the skin, for it is quite clear that there is also an increase of secretory activity. The increased warmth probably accounts for the slight increase of axillary temperature. In almost all the patients the change in the face has been most noticeable; rubbing the skin of patients who previously showed little or no reaction is followed by a glow of warmth and colour. Improved complexion was noticed in pale, cold, anæmic women, in women with dry, sallow skins, and in pale-faced men. No conclusions have been arrived at regarding the hair, but thus far the results are rather positive and favourable than negative. (7) Mental effects. It would be premature to say that we have here a direct brain stimulant, for the data are still insufficient, and may prove elusive; but there can be no question of this, that mental changes, sometimes of an abnormal character, form striking incidents in the course of treatment. Exhibition of temper was quite noticeable in both sexes, but much more in the male sex; and it seemed, in several male adolescents who had lapsed into stupor, that this drug had an awakening influence. The most potent preparation was an emulsion of the ethereal extract, of which each fluidrachm represented five grains of extract. The largest dose was one drachm four times daily.—*Edinburgh Medical Journal*, 1898, No. 512, p. 152. (*American Journal of Medical Science*, May, 1898.)

STRYCHNINE POISONING.

Dr. A. Hubel reports that two hours after intentional ingestion of this drug he thoroughly washed out the stomach, gave strong coffee and ten drops of tincture of iodine every two hours. Later he administered seventy-five grains of potassium bromide. Recovery followed. The notable conditions, aside from the usual symptoms, were in this instance the elevation of temperature on the first day, the retention of urine, and the appearance of blood and casts in it. The first is explained by the enormous activity of the muscles; the urinary retention by the spasm of the *sphincter vesicæ*. The blood and casts can be explained by the irritation which strychnine in large doses produces in the kidney. During convalescence the influence of strychnine upon metabolism was marked in that the chlorides and phosphates were markedly diminished at the commencement, but increased daily in amount, while the urea remained constant as in normal

urine.—*Münchener medicinische Wochenschrift*, 1898, No. 1, S. 7.
(*American Journal of Medical Science*, May, 1898.)

SYPHILIS.—Aix-la-Chapelle Treatment of.

The patient arises in the summer at seven o'clock, in the winter at eight o'clock; drinks several glasses of special spring water during a one-half hour promenade; one-half hour later he takes a sulphur bath (95° F.) of twenty minutes' duration. In weak patients breakfast should precede the bath by about one and one-half hours. After the bath the patient rests for one-half hour; he is then ready for breakfast. In vigorous patients I add the vapour bath to the above plan; this is an exceedingly active stimulant to tissue change. After breakfast the patient receives an inunction at the hands of an experienced rubber. Daily one of the following areas are subjected to the inunction:— (1) Both thighs; (2) both axillas; (3) breast and sides; (4) back; (5) both arms. The patient is directed to wear woollen undergarments, which are to be changed only once weekly. The anointed areas are rubbed for twenty minutes, until the parts are almost dry. The patient should be instructed not to wash these areas when bathing. The skin is dried about these parts simply by pressure of the towel to absorb the moisture and thus avoid removing any of the salve. Only those parts which are to be anointed the following day are to be thoroughly washed. The patient is instructed to rest one-half hour after lunch; then two or three hours' exercise should be taken (promenade in the woods, bicycling, riding, tennis, &c.). About half-past five a draught of spring water (about 300 grammes) is taken. Dinner at seven o'clock. At half-past ten the patient retires. The sleeping apartment at all times should be thoroughly ventilated. To avoid stomatitis, the patient is directed to cleanse his teeth with the following tooth powder, after each meal:—℞ Salol, 4·0 grms.; resorcin, 2·0 grms.; pulv. irid. flor, 40·0 grms.; calc. carbon, 8·0 grms.; carmin, 0·3 grms.; ol. menth. pip, 10·0 gtt. I also direct that the mouth be rinsed every half hour, with the following mouth-wash suggested by Dr. St. Clair Thomson:—℞ Liquor. alumni acetic, 100; aq. flor, aurant, 300; aq. dest, 800. The patient carries this with him constantly in a flat bottle. If, after these precautions are observed, there are still indications of stomatitis, the gums should be painted every two hours with tincture of myrrh. If in spite of these precautions stomatitis develops, it is not an indication, as is usually supposed, for the cessation of treatment. When such a condition presents itself, the following procedure is adopted:— With a small applicator, tufted lightly with cotton, the white deposit between the gums and teeth may be wiped away carefully, and the cleansed area pencilled with a 70 per cent.

solution of chromic acid. The chromic acid solution should not be allowed to diffuse in the mouth, and the patient should avoid swallowing for about twenty minutes. The day following such procedure the patient can usually masticate even hard food. Moderate diarrhœa may be regulated by the following:—*R* Decoct. colombo, 15·200; tinct. opii, 1 gr.; *M.*, a tablespoonful every two hours. A diet of oatmeal gruel, eggs and toast, is prescribed for twenty-four hours; also the drinking of tea without sugar, and claret. Cases of severe mercurial poisoning are of very rare occurrence here. I attribute this fact to the stimulation of the tissue-metamorphosis by the thermal baths, and the internal use of the sulphur water. Secondly, the apparent cause of this successful course of treatment in Aix-la-Chapelle, where large quantities of mercury may be exhibited without bad effect, may be due to the favourable influence of the baths, which seem to diminish the toxic effects of mercury. In my opinion, the iodides exert their influence only as resorption agents of the products of tertiary syphilis; the poison itself and the hypothetical bacteria can be influenced only by mercury. As regards diet, I would add, that in the course of treatment prescribed at Aix-la-Chapelle, especial stress is laid on the administration of nourishing food. (From Dr. Anton Lievens' paper, translated by Dr. M. A. Goldstein, *Laryngoscope*, May, 1898.)

SYPHILIS, INHERITED.

Jonathan Hutchinson, in an article on inherited syphilis, lays stress upon the following points, based upon his own most extensive experience:—That the subjects of taint often grow up into healthy men and women. That complete exemption from other indications of taint does not exempt from the risk of an attack of keratitis. That it is not unusual for one child in a family to suffer very definitely, whilst all the others apparently escape. That it is very exceptional for any considerable series of children to suffer in succession from inherited taint. That the mother of one or more syphilitic children may herself remain throughout quite free from symptoms and apparently in good health. That a condition of general arrest of growth may be one of the consequences of inherited taint. That it is possible for children born within dangerously short periods of the primary disease, in one or both parents, to entirely escape the inheritance. That although, as a rule, after keratitis, choroiditis, &c., the recovery is permanent, there are exceptional cases in which certain progressive changes continue. That it is by no means improbable that some who really inherit taint never, either in infancy or subsequently, show any symptoms. That the children of those who have suffered from inherited

syphilis are usually quite healthy. That syphilitic infants may be suckled by their mothers, as a rule, without risk to the latter. (Mr. Hutchinson's whole experience affords no trustworthy exception to either of these last two propositions.)—*Arch. Surg.*, London, January, 1898. (*Edinburgh Medical Journal*, May, 1898.)

TEMPERATURE, CAUSES OF SUB-NORMAL.

Dr. Janssen sums up the causes of this condition as follows:—

(1) After the direct withdrawal of heat from the body, as in cases of exposure of unconscious or drunken persons in a very cold atmosphere or after immersion in very cold water. (2) After the loss of great quantities of fluids from the body, as in severe diarrhoea, enteritis, cholera, or profuse hemorrhage. (3) In conditions of cachexia and inanition, such as cancer of various parts of the alimentary canal, severe forms of diabetes, pernicious anæmia, during convalescence from febrile affections, and in many chronic mental diseases. (4) In grave circulatory disturbances, as in cardiac failure. (5) In various diseases of the central nervous system, in tuberculous meningitis, at the onset of cerebral hemorrhage and embolism, in some cases of brain tumour, and in general paralysis of the insane. (6) After irritation of sensory nerves, as in intestinal strangulation, in renal and gall-stone colic, internal perforation of the intestines, &c., and after surgical operations. (7) In skin affections involving large areas, such as scleroderma and extensive burns. (8) After fevers, when the temperature may long remain sub-normal, or in the course of certain fevers, as in pyæmia. (9) In cases of poisoning by phosphorus, atropine, morphine, carbolic acid, and in alcoholic intoxication; also in the auto-intoxication of uræmia and in diabetic coma. In some healthy persons sub-normal temperatures are occasionally observed without any apparent cause. (*Medical Record*, April 2, 1898.)

TENALINE.—A New Vermifuge.

Hobday, professor of therapeutics, Royal Veterinary College, London (*Journal of Comparative Pathology and Therapeutics*, December, 1897), relates certain tests made on animals, with a view of determining the value of tenaline, a new preparation recently made from the areca nut, and which retains the tæniifuge alkaloids of arecaine and guvacine without the toxic principle arecoline. It has the advantage over powdered areca nut of being more easily administered as its bulk is small, and a purgative is not a necessary adjunct. Its action on the bowels is to increase secretion and stimulate peristalsis so that no worms can be retained. Its general effect

seems to cause expulsion of the head as well as the segments, thus getting rid of the most troublesome part of the parasite. The dose is one minim for each pound of body weight, and it is advised that it should be administered pure or with the addition of a little water. Tenaline is considered to be a perfectly safe vermifuge. That it has a toxic action was illustrated by the case of a Maltese terrier in which one drachm was given subcutaneously. The dog died in ten minutes from respiratory failure. Tenaline is unsuitable for subcutaneous use. (Medical Age, March 25, 1898.)

TETANUS, A NEW ARTIFICIAL IMMUNITY AGAINST.

Wassermann, in the *Berliner klinische Wochenschrift*, 1898, No. 1, discusses the theory of Ehrlich's on the formation of antitoxines. The latter assumes that when an animal is poisoned, by tetanus for instance, certain cells of the spinal cord combine with the poison. He assumes that this toxine unites with a certain portion of the cell and that the antitoxines are nothing but these particular parts of the cells which are continually being broken down and regenerated during the immunising process. In other words, there is a setting free of certain chemical portions of normal spinal-cord cells. According to this, the normal central nervous system ought to contain substances which will render animals immune to tetanus, and this is precisely what Wassermann and Takaki find. Fresh spinal cord or brain, rubbed up in normal salt solution and injected into an animal, not only prevents death from a previous inoculation, but confers an immunity lasting for twenty-four hours. The power of this substance is far lower than that of the Behring serum containing tetanus antitoxin, so that the results so far are of purely scientific interest and have no immediate therapeutic value. (New York Medical Journal, February 25, 1898.)

TETANUS WITH AND WITHOUT ANTITOXIN, THE MORTALITY OF.

Owens and Porter (*Jour. Amer. Med. Assoc.*, November 13, 1897) report three cases of tetanus, one treated symptomatically, and two with tetanus antitoxin. All proved fatal. A study of the published cases shows two facts, viz., that mortality rates have been but little influenced by the treatment with antitoxin, and that the relation of the period of incubation to the mortality is practically the same whether the antitoxic serum is or is not employed. The writers have analysed 26 cases in which the serum had been used, and found 12 recoveries, and 14 deaths, giving a mortality of 53·8 per cent. Of those patients who

recovered, the shortest period of incubation was six days; of those who died the longest period was twelve days. They are, therefore, of the opinion that those cases in which symptoms appear before the sixth day will die in spite of any antitoxin treatment, and that those in which the development of symptoms is delayed beyond the second week will invariably recover. The Medical Bureau of the Columbian Exposition treated 202 cases in which nail-punctures had been received during the erection of the buildings, in most cases the punctures being made by a rusty nail. Their treatment was as follows: (1) Thorough cleansing of the part with a solution of bichloride of mercury, 1-1000. (2) Trimming the edges of the wound. (3) Swabbing out the wound with a probe lightly covered with cotton, and dipped in a ninety-five-per-cent. solution of carbolic acid. (4) Drainage. (5) Antiseptic dressing. (6) Rest. Tetanus did not develop in a single case. This shows the value of the preventive treatment which ought to be followed rather than to place dependence upon any possible good effect of serum administered after tetanus has developed. (*Medical News*, January 22, 1898).

THYROID TREATMENT.—Method of Administration.

Ingestion was the only method used in the therapeutic use of the thyroid body and the gland generally employed was taken from the sheep. That preference rested on two reasons, first, that the gland of the sheep presented the greatest analogy with that of man; and secondly, that animal was rarely tuberculous. The gland should be carefully examined by the physician when it came from the butcher for fear of mistake, as frequently the thymus, the salivary glands, or even a piece of the lung was given for the thyroid gland. The gland should be given at meals, and the dose weighed each time, and at the beginning from fifteen to thirty grains might be administered and gradually increased even to an ounce daily, according to effect. The treatment should be diminished or suppressed if accidents occurred (irregular pulse, tachycardia, headaches, gastric disturbance, insomnia, weakness). In myxœdema, according to M. Marie, the daily dose should be one lobe (thirty grains) for three or four days, at the end of that time and when the ordinary thyroid reaction set in (polyuria, rise in the temperature, acceleration of the pulse, insomnia, pains in the limbs), the dose should be given only every two days, and gradually suppressed when the symptoms of the malady disappeared. In obesity the average dose was 15 grains daily, or 40 grains twice a week. Pharmaceutical preparations of the dried gland in the form of tablets of two grains each was a convenient form of administration in the case of children,

who generally refused the gland in its natural state. (From Prof. Mossé's paper in the *Medical Press and Circular*, May 11, 1898).

TREATMENT OF OBESITY.

Robin (*Rev. de Therapeut.*, December, 1897) treats obesity as follows:—At 8 a.m. the patient receives a boiled egg and two-thirds of an ounce of lean meat or fish—the whole to be eaten cold and dry. A third of an ounce of bread and a cup of weak and very hot tea without sugar complete the repast. At 10 o'clock a second meal is given, consisting of two boiled eggs, one-sixth of an ounce of bread, and five ounces of water, wine, or tea. At noon the meal consists of as much cold meat as is desired, without bread, but with salads served with salt and lemon-juice. If the patient craves bread very badly, an ounce may be permitted. He also receives from 3 to 5 ounces of green vegetables served with butter. Farinaceous articles, and those extremely sweet, are absolutely forbidden. Three to 5 ounces of raw fruit may be allowed as dessert. Two glasses of water may be drunk with this meal, and a quarter of an hour later a cup of weak tea without sugar. Another cup may be given at 4 o'clock. Finally, at 7 o'clock, the same meal may be taken as at 8 in the morning, with the fish or meat warmed, if preferred, the amount not to exceed 3 ounces. The patient should walk half or three-quarters of an hour after each repast; that is to say, five times daily. He should take vapour baths, followed by general massage; should never sleep in the daytime, and not more than seven hours at night. Of the various systems of medication proposed to reduce flesh, Robin has this to say: The thyroid preparations are unreliable, and are not without danger. Iodide of potassium will diminish the amount of flesh, but produces accompanying ill effects, such as shrinking of the glands. Treatment by mineral waters is only efficacious as long as it is continued, and should be regarded as a mere adjunct of dietetic treatment. (*Medical News*, March 19, 1898.)

TUBERCULIN R.

The latest reports published continue to be unfavourable to Koch's new tuberculin; the disease seems to continue its course unaffected by the injections (Stempel, 23 cases; Spiegel, 21 cases, *Münch. Med. Woch.*, Nos. 48 and 50, 1897). The greatest benefit has been derived from it in lupus, and here and there are a few who endorse it enthusiastically. In closing the series of articles the *Deutsche Med. Woch.* has been publishing on the subject, it remarks that several years must pass before the value of the Koch treatment is finally established. (*Journal of the American Medical Association*, February 5, 1898.)

TUBERCULIN TEST.

(The following is taken from Dr. W. P. Northrup's paper). As a result of the experience recorded it is to be advised:—

(1) To be sure of the quality and strength of the tuberculin used. (2) To begin, in adults, with one milligram; if there is no reaction after an interval of two or, better, three days give 3 or 4 milligrams. *Summary.*—The present list comprises sixty-one cases.

Sixteen patients believed to be tuberculous all reacted to the test. Nineteen patients believed not to be tuberculous all failed to react. Sixteen patients clinically believed to be, but never proved, tuberculous, all reacted. Fifty-one patients, eighty-four per cent. (the above), behaved clinically as was expected. Seven patients, clinically doubtful, reacted. Two patients, clinically suspected, failed to react. One patient, subsequently proved tuberculous (autopsy "a few recent tubercles"), failed to react. No harm to any patient from the test. Local irritation (never suppuration) occurred in both tuberculous and non-tuberculous patients at the site of injection; no significance. Constitutional reaction has a fairly characteristic temperature curve, with headache, local pains, malaise. It is the personal conviction of the writer that with further study of dosage and methods of administration, the tuberculin test will prove to be a material aid in diagnosis of latent tuberculosis. (Medical News, April 23, 1898.)

TUBERCULOSIS.—Prevention of.

At the Twelfth International Medical Congress, held in Moscow, Dr. V. C. Vaughan concluded a paper with the following propositions:—All milkmen should be provided with a license from the municipality, such a license not being granted until the cattle have been inspected by a competent veterinarian, who should apply the tuberculin test in every instance, and any animal found suffering from tuberculosis should be immediately destroyed. Cattle killed for food should also be subject to skilled inspection. The disinfection of sputum from consumptive individuals is absolutely necessary, and such persons should not be allowed to expectorate in the streets or public vehicles. Houses and rooms which have been inhabited by consumptives should be disinfected. The Government should construct, equip, and maintain hospitals for paupers suffering from tuberculosis; such hospitals should be divided into two classes—one for incurables and the other for those who may recover. Tuberculosis in its early stage is a comparatively curable disease; therefore persons yet in this stage should be examined once or twice a year by a physician, and the Government should furnish physicians to make such examinations for the poor. (Medical Record, November 27, 1897.)

TUBERCULOSIS.—The Bacteriology of.

It may not be out of place to describe very briefly one of the best methods of staining the tubercle bacillus. If, from a sputum rich in tubercle bacilli, the small, yellow, caseous-looking points be spread out by pressure between two cover glasses, a fairly thin film remains on each, when they are carefully slipped one over the other until they come apart. They are then thoroughly dried, in the meanwhile being carefully protected from the dust, passed rapidly three times through the flame of a spirit-lamp, care being taken not to scorch the film, and floated film-face downwards on the surface of a solution made up as follows:—Saturated alcoholic solution of basic fuchsine, 1 part; absolute alcohol or rectified spirit, 10 parts; 5 per cent. carbolic acid solution, 10 parts. This fluid is thoroughly mixed, and a small quantity is filtered into a watch-glass on which the film is floated as above. If time is an object, the fluid is gently heated over a Bunsen burner or spirit-lamp until steam rises; the film is then dropped on to the surface, and at the end of from three to five minutes the bacilli are sufficiently deeply stained. If time be no object, or if sections are to be stained, the preparations should be left in the fluid for from twelve to twenty-four hours. The preparations are then transferred to a watery 25 per cent. solution of sulphuric acid, when the pink immediately becomes a beautiful yellowish-brown colour which diffuses throughout the acid, giving it a yellow or yellowish-brown tinge. When the decolorisation is complete there should be no return of the pink when the specimen is plunged into a bowl of tap-water to which a single drop of ammonia has been added; it may be necessary, however, to return the specimen once or twice to the acid before this end is attained. After being thoroughly rinsed in the slightly alkaline water, the specimen is counter-stained in a watery solution of methylene blue. It is then washed in water and carefully dried and mounted in Canada balsam. In preparations so prepared the bacilli stand out as bright red rods, standing out in a blue background of cells, pus corpuscles, and *débris*. (From Dr. Sims Woodhead's paper in the *Practitioner*, June, 1898.)

TYPHOID BACILLUS INFECTION WITHOUT INTESTINAL LESIONS.

H. Chiari and E. Kraus (*Zeitchr. f. Heilkunde*. Bd. xviii., 1897) report five cases of infection with the typhoid bacillus, in which the post-mortem examination failed to reveal any lesions which were indicative of typhoid fever. These cases clinically were diagnosed typhoid fever, the Widal serum reaction being positive in each case. In four of them there was extensive tuberculosis of the lungs, larynx and intestine.

In the fifth case there was pyæmia. Typical typhoid bacilli were demonstrated in the bile of two and in the urine of one of these cases. In the remaining two cases the bacteriological proof of the identity of the bacilli found microscopically in the mesenteric glands (and in the spleen also of one of them) is not complete, but that they were typhoid bacilli seems possible. (Boston Medical and Surgical Journal, March 5, 1898.)

TYPHOID FEVER, APYRETIC.

In a recent case by Weill and Peary, published in *La Province Médicale* for November, 1897, the temperature was normal or sub-normal practically throughout the entire course of the disease, but the pathologic process was accompanied by the characteristic symptoms of typhoid fever so undoubtedly that no question as to the diagnosis could be admitted. The symptoms began with the usual vague manifestations of general wretchedness, with great fatigue upon attempting any exertion. There was loss of appetite, frontal headache, restless sleep, vertigo, nausea, but there was no epistaxis. There was also pain throughout the limbs. The tongue was characteristic, red on the edges, and rough in the centre. Constipation was present. There were no rose spots early in the attack. The abdominal walls were soft and pliable. The lungs were normal, there was a slight murmur at the base of the heart. The pulse was quick and small, and easily accelerated by excitement. Vomiting was sometimes present, and a restless sleep finally became complete insomnia. Several days later in the case abundant epistaxis came on in the night. There was diarrhœa of a non-fœtid character, which was persistent, and vomiting became a persistent symptom. Weill and Peary go over the case very carefully, present its temperature chart, exclude anæmia and other causes of low fever, and conclude that this was another instance of apyretic typhoid. (Journal American Medical Association, March 5, 1898.)

TYPHOID FEVER.—The Relapse of.

(By E. Bertram Hunt, *The Practitioner*, March, 1898.) Dr. Hunt reports 40 per cent. of cases showing a relapse in a group of 71 cases recently treated in University College Hospital. This is very high. Two cases show double relapse, and in one three successive relapses occurred. An attempt is made in this article to establish a clearer understanding of the application of the terms "relapse," "recrudescence," and "intercurrent relapse." That confusion arises in the application of these terms all readers must admit, and Dr. Hunt's teaching is reasonable and clear, and, if followed, would do away with misunderstanding in

this connection. The chief point is emphasised when he says that a relapse may occur without any interval clearly defined between the primary attack and the relapse. It is a repetition of the morbid process. This repetition produces a re-establishment of some or of all the clinical features of the case. He does not agree with Murchison and Dreschfeld, who do not recognise a relapse before convalescence from the first attack is fairly established. In support of this position he quotes four cases described by Irvine, 11 cases seen by Shattuck, and further remarks that Fagge, Osler, Chantemesse, and others recognise that such cases are true relapses. They may be termed intercurrent relapses. Of the 28 cases of relapse reviewed by Hunt, 15 occurred before the temperature reached the normal, hence 15 cases showing "intercurrent relapse." Eleven cases showed the relapse after an apyretic interval. In two cases the intercurrent relapse was followed by a period of apyrexia—and a second relapse. In this analysis a reason for the high percentage of relapses may be found—many other observers not reckoning these intercurrent temperature elevations as relapses. During only one recurrent relapse was an opportunity afforded for a post-mortem examination. This revealed both recent and old intestinal ulceration. The average duration of intercurrent relapses was 16 days. Those cases in which during convalescence the temperature rises and remains up for a few hours or days, should be called cases of "recrudescence," or "after-fever," or "false relapse." The average of the other 11 cases was eight days. Of the 28 cases, three died. Generally the relapses resemble the primary attack, but are milder and symptoms appear earlier. Contrary to Maclagan's view, relapses were more frequent in cases of diarrhœa; five only occurred with constipation, while 16 were in diarrhœal cases. The second part of Maclagan's view, viz., that the relapse is due to an infection from the cast-off sloughs can hardly explain the relapses in the fourth week, for Dr. Hunt claims that re-infection must have taken place in the second week before the period of sloughing. The fact that a real invasion of the intestinal and mesenteric glands by typhoid bacilli takes place is rather opposed to the explanation of the relapse by re-absorption of toxins alone. Chantemesse, believing that the bacilli of typhoid are not promptly gotten rid of, in any case, explains relapses by a fresh growth of these, but of what causes these fresh growths we are still ignorant. They may be determined by degree of immunity induced by the primary attack. (Montreal Medical Journal, April, 1898.)

TYPHOID FEVER, WIDAL'S TEST IN.

It seems to me that the present status of the Widal test may be summarised as follows: (1) It is in the doubtful and mixed

cases that the test may be said to find its greatest usefulness ; for not more than sixty per cent. of all cases give a positive reaction before the twelfth day, a period at which the clinical symptoms are ordinarily sufficient to determine the diagnosis. (2) If made with proper dilution and culture, a positive reaction is practically pathognomonic of typhoid infection. In this connection the history as to previous attacks should receive consideration. (3) If repeated daily examinations of the serum in a suspected case fail to give the reaction, the presumption is very strong that the case is not one of typhoid. The fact that the reaction may in rare cases not occur until late in the disease prevents the positive exclusion of typhoid. (From paper by Dr. J. B. Thomas, jun., in the *Medical News*, March 26, 1898.)

TYPHOID FEVER, WOODBRIDGE TREATMENT OF.

This treatment is essentially one of intestinal antiseptics; Formula No. 1 is as follows:—*R.* Resini podophylli, $\frac{1}{960}$ grain, hydrargyri chloridi mitis, $\frac{1}{16}$ grain; guaiacol carbonatis, $\frac{1}{16}$ grain; menthol, $\frac{1}{16}$ grain; eucalyptol, q. s. *Misce et fiat* triturate No. i. *Sig.*: One every fifteen minutes during the wakeful period of the first forty-eight hours, or until eighty or one hundred have been taken. Large potations of sterilised carbonated water are recommended. At the end of twenty-four hours begin with:—*R.* Resini podophylli, $\frac{1}{960}$ grain; hydrargyri chloridi mitis, $\frac{1}{16}$ grain; guaiacol carbonatis, $\frac{1}{4}$ grain; menthol, $\frac{1}{16}$ grain; thymol, $\frac{1}{16}$ grain; eucalyptol, q. s. *Misce et fiat* tablet No. i. *Sig.*: Give one every fifteen minutes with No. 1 until five or six free evacuations of the bowels have been procured, during this and the following day. About the third or fourth day Dr. Woodbridge gives:—*R.* Thymol, 1 grain; guaiacol carb., 3 grains; menthol, $\frac{1}{2}$ grain; eucalyptol, 5 minims. *Misce et fiat* capsule No. i. *Sig.*: Give one every three hours until temperature has been normal for at least three days. For children the same medicinal treatment is instituted in smaller doses. (*Medical Age*, December 17, 1897.)

WHOOPIING-COUGH.—The Bacteriology of.

Czaplewski and Henseh (*Deutsche Med. Wochenschrift*, Sept. 9, 1897) describe the results of their investigation of the sputum in an epidemic of whooping-cough occurring in Königsberg. They were completely disappointed in their expectation of finding the diplococcus described by Ritter, but discovered a small bacillus to be present in every case they examined. It was for the most part easy to demonstrate, and in some cases present in very large numbers and in pure culture. It was a small short rod with rounded ends, resembling the influenza

bacillus in its behaviour to staining fluids and in size, but growing upon the ordinary media. The smallest forms resembled cocci; those preparing for fission, diplococci. In the latter careful staining gave a greater depth of colour at the poles, while the middle part remained almost colourless. The full-grown rod was not more, usually, than thrice as long as it was broad, but longer forms were observed in cultures. The organism is motionless, and possesses little resistance. It may be stained by the usual aniline colours, and in young cultures by Gram's method. In the sputum the bacteria are very numerous in severe cases, lying for the most part free, and not enclosed in cells. At first they are scanty, but may always be found on careful search. Other bacteria, especially streptococci, are often found along with them, and as these grow more freely they make the isolation of the organism difficult. The colonies, which are not very characteristic, resemble dewdrops. They are slightly elevated and of a light greyish-yellow colour. Pure cultures form a greyish-yellow film in serum tubes, and grow even on gelatine at 23° C. As in the cases of influenza, attempts at inoculation into animals did not succeed. Over thirty cases were examined, and the bacillus was found in all. In one in which the diagnosis had not yet been made, the authors predicted whooping-cough from the presence of the organism, and their prediction was verified. They consider, therefore, that they are justified in regarding the organism as the cause of whooping-cough. Further detail is promised later. (Glasgow Medical Journal, February, 1898.)

AFFECTIONS OF THE NERVOUS SYSTEM.

ABSCESS OF THE BRAIN IN INFANTS.

Conclusions are drawn as follows by Dr. L. M. Emmett Holt in *Pediatrics*, March, 1898:—(1) Abscess of the brain in children under 5 years is rare. (2) The principal causes are otitis and traumatism. (3) It rarely follows acute otitis, but most often neglected cases, and is usually secondary to disease of the petrous bone. (4) In the cases occurring in infancy without evident cause, the source of infection is probably the ears, even though there is no discharge. (5) The development of abscess after injury to the head without fracture of the skull is extremely rare. In nearly all the traumatic cases definite cerebral symptoms show themselves within the first two weeks after the injury. In cases with falls, as remote as several months, there is probably some other cause, such as a latent otitis. (6) In a large proportion of the cases only general

symptoms are present, and these in very great variety. (7) Focal symptoms may be misleading unless they are constant, and even then they may depend upon associated lesions, such as meningitis. Motor symptoms only can be trusted, since the sensory symptoms are difficult or impossible to determine in infants or young children. (8) Rapid progress, fever, and a history of injury or otitis generally make a diagnosis from tumour easy. In the slower cases, with little or no fever, valuable assistance may be obtained from lumbar puncture. (9) From acute meningitis the diagnosis is more difficult, and in the cases in which there are only terminal symptoms the diagnosis is impossible. In the more protracted cases the distinctive points with reference to abscess are the slower and more irregular course and, as a rule, a lower temperature. (10) On account of the great amount of shock attending brain surgery in very young children, an operation should not be urged unless definite localising symptoms are present, the principal one being hemiplegia. (New York Medical Journal, April 9, 1898.)

APHASIA.

The object of treatment is to restore the conduction of impulses along the usual paths or to open up new paths. In amnesic aphasia, endeavour to strengthen the defective recollection of words. Learn the words by heart, and then adopt short reading-exercises. The exercises should be performed in front of a mirror, so as to enable one to recall the memory of the necessary movements. In motor aphasia other parts of the brain may take on function. Single sounds, then syllables, and then words, are taught. Along with the articulation exercises, writing-exercises with the left hand should be performed. Teach the patient to form words from printed letters. Sensory aphasia is far more difficult to teach. First attempts are made by means of written language. Develop lip reading, combining with it reading, writing, and other exercises. These cases are often complicated with a combination of different forms of aphasia. Much patience is required. Results so far encourage further efforts.—Karl Bok, *Festschr. des Stuttgart. aerztl. Vereins*, 1897. (Medical Record, January 15, 1898.)

ARSENICAL NEURITIS.

(By Dr. R. G. Curtin.) B. D., aged 10 years, school girl, was admitted to the dispensary of the Presbyterian Hospital, April 17, 1896, with a well-marked attack of chorea. She was placed on Fowler's solution, gtt. v, increasing gradually to gtt. xii, t. i. d. During May she was not brought to the dispensary regularly and the quantity of Fowler's solution taken is not accurately

known, but was probably between $\frac{2}{3}$ ii and $\frac{2}{3}$ iii in all. On June 5 she was admitted to the ward because of loss of power in the legs. Several weeks before admission she had epigastric pain and vomiting and diarrhœa. A short time after she had pain and tenderness of the calves of the legs. Soon she began to lose power in them and became unable to walk. On admission, areas of bronzing were observed as the axillæ, elbows, popliteal spaces and ankles. The mucous membranes were pale. The pupillary reflex was normal. Both the patellar and plantar were absent. The forearm reflex was present, but not well marked. Sensation in the legs was diminished, but not lost. The only tenderness noted was in the lines of the radial nerves. The leg and thigh muscles were apparently somewhat wasted. They were flabby. There was no swelling, but they rapidly became cold upon exposure. There was almost complete loss of power in the quadriceps extensors and leg muscles. The toe could be moved slightly, mainly in flexion; there was foot-drop. She was unable to walk; when attempting to do so, with support, the toes were dragged. No change was found in the arm muscles; no wrist-drop. The electrical reactions, June 26, showed complete absence of response to the rapidly interrupted faradic current of any strength and but slight reaction to the strong galvanic current in the leg muscles and thigh extensors. There was less marked loss of electrical irritability in the forearm muscles. The muscular condition was perfectly symmetrical. The amount of urine was less than 20 oz. per day, and on admission showed the presence of arsenic by Marsh's test. Improvement continued gradually until she became able to walk. She was discharged October 14, 1896. At that time she had a typical "steppage gait." Examination of the patient December 11, 1897, showed the same gait, with difficulty in ascending stairs or running. Power has much improved, but not during the past six months. The pigmentation has disappeared. The legs become blue and cold upon exposure. Tactile sense appears to be unimpaired. There is no pain, tenderness nor paræsthesia. There is foot-drop; the foot cannot voluntarily be brought at right angles with the leg. The legs are not much wasted, but are toneless and flabby. The plantar reflex is absent, the patellar sluggish. Both faradic and galvanic irritability is completely lost in the leg muscles and also in those of the forearms. Fibrillary contraction was observed in the thenar group of muscles. This case is regarded as one of neuritis because of (1) the preliminary sensory symptoms; (2) the symmetrical character of the paralysis, and (3) the early and pronounced loss of electrical irritability. (Pediatrics, April 28, 1898.)

Arsenical Neuritis.

Colman exhibited a case occurring in a girl aged 12 years, who had been given arsenic for chorea. She had received fifteen minims of liquor arsenicalis (Brit. Ph.) three times daily during several weeks. At the close of the treatment the chorea was apparently perfectly cured. Two weeks after the use of arsenic had been discontinued the patient complained of weakness and tingling of the leg, soon followed by ankle-drop, and, later, by paralysis of all muscles below the knees, with well-marked reaction of degeneration. There was also some weakness and diminished faradic reaction of the extensor muscles of the forearm. The patient was placed in bed and treated by massage and galvanism, and is now rapidly recovering. The case is interesting as showing that heroic doses of arsenic, so often used in chorea, are not without risk. (Medical News, March 19, 1898.)

BRAIN, BULLETS IN.

At a meeting of the Berlin Medical Society, Hr. v. Bergmann showed two patients. The first was that of a servant girl, who was shot whilst cleaning a revolver in October, 1897, the bullet, nine mm. in diameter, entering the head at the left inner angle of the eye. She was unconscious for half an hour. The wound bled freely, there was violent pain in the parietal region and in the right eye and right side of the face, with bleeding from the nose and mouth. The patient was admitted into hospital on the same day. The pulse was regular, 55 per minute. The pain in the head, which was on the right side, opposite to that of the injury, and violent; exophthalmus on the right side, vision undisturbed. Later on the pulse rate fell without further loss of consciousness. On the fifteenth day there was papillary stasis and hemorrhage into the left retina. On the twentieth day the exophthalmus had disappeared. On the thirtieth, paralysis of the right abducens, which also disappeared later. Double vision had also disappeared. The patient was now apparently well. Roentgen illumination showed that the bullet was now situated in the right occipital convolutions. The second case was that of a merchant, aged 25, who was wounded three years ago by a shot from a revolver of seven mm. calibre. The bullet entered the right temple. The patient was unconscious for three days, had left hemiplegia, loss of hearing in the left ear, vision lost in both eyes, the latter returning in five days. Under electrical treatment the paralysis improved considerably, there was still slight paresis of the left facial nerve, and slight weakness of the arm, and the left foot still dragged. For the last six months there had been severe headache, especially on bending forwards. Intellect unaffected,

pupils and fundus oculi normal, but there was left sided hemianopsia. No other disturbance of organs of sense. The muscles of the left arm small, the elbows and fingers flexed. Sensibility was diminished on the left. Diminished sensation on touching the nose and forehead, sense of pain less, and complete loss of sense of temperature. The injury, as shown by X rays, was at the border between the first two and the last third of the internal capsule above the thalamus opticus. (Medical Press and Circular, March 16, 1898.)

CALOT'S METHOD.

Mr. Cotterell showed a child, aged 5, who was admitted in June, 1897, suffering from complete paraplegia due to caries of the spine in the upper dorsal region. She was treated by rest and double extension, but without any improvement. In September, 1897, he extended the spine under chloroform and fixed the patient in a plaster jacket. Within a week movement in the legs began to return, and progress had since been steadily maintained. The jacket was removed on February 18, 1898. The patient could now walk, run, and jump without pain or discomfort.

Mr. Jackson Clarke referred to a case of his own treated in this way. The operation could not be said to have done any harm, but he was afraid to leave off the jacket. There was evidently not much to fear from the operation, but he himself would not care to apply it in a large number of cases, feeling that, as far as the deformity was concerned, equally good results could be obtained by other means. (Medical Press and Circular, March 2, 1898.)

CEREBRAL ABSCESS.

Mr. Roper described, before the Leeds and West Riding Medico-Chirurgical Society, a case of cerebral abscess under his care. E. M., aged 14, had left otorrhœa for two years. Lately the discharge had become fœtid, and there had been severe pain in the left ear and side of the head, lasting three to four days. Afterwards there was loss of memory for words, slow pulse, slight rise of temperature, vomiting, loss of power in the right arm. There was no mastoid tenderness. Double optic neuritis was present. Mr. Littlewood operated. The mastoid cells were opened and found to be healthy. The temporo-sphenoidal region of the brain was explored, and an abscess found and drained. A hernia cerebri formed a few days after the operation, and after increasing in size for some days, shrank, finally disappearing entirely under the application of pressure, and the wound healed. The use of the arm very soon recovered, but the memory only returned gradually.

Mr. Littlewood drew attention to the size of the opening into the skull which was necessary in this case. (*British Medical Journal*, March 5, 1898).

CHOREA.—Massage in.

Fedorov (*La Semaine Méd.*, September 8, 1897) is well pleased with the results obtained in ten cases of chorea by the use of massage. The patients were children from seven to fourteen years of age. The movements were at first light, then gradually increased in force until the whole body was thoroughly handled. Passive motions followed as soon as the patients were sufficiently calmed to permit them. The beneficial effects of this treatment were evident on the third or fourth day, and at the end of a week an improvement in the general condition was manifest. Fedorov believes that the massage exerts a sedative action on the central nervous system, stimulates the circulation, and so facilitates nutritive exchange and the elimination of toxins which have accumulated in the organisms. (*Medical News*, November 20, 1897.)

DELIRIUM.—Treatment of.

(By Dr. Joseph Collins, *Medical News*, February 26, 1898.) The general indications in the treatment of delirium are first, to secure sleep; second, to overcome motor unrest; third, to prop up and maintain the patient's vitality by contributing to his nutrition, and fourth, to discover and remove the cause upon which the delirium is dependent. To meet the first indication hypnotics are almost always required, although it should never for a moment be forgotten that an hour's sleep induced by measures taken to fulfil the third condition is far more salutary than three hours' sleep obtained by the use of a hypnotic. Moreover, that in many forms of asthenic delirium, whether the asthenia be induced by infection, intoxication, exhaustion, senility, or what not, sleep is more readily induced and maintained by measures directed immediately against the asthenia than against the insomnia. In the selection of a hypnotic the one least depressant to the patient's vitality and least apt to be followed by depression should always be given preference. The motor depressants should never be used in the delirium accompanying the asthenic state, except as the very last resort. In certain forms of asthenic delirium, and especially those in which a sedative effect cannot be produced by the external application of water, drugs which are motor depressants, and at the same time hypnotics, may be used with the greatest benefit. Of these, the alkaloids of hyoscyamus are the most available. The second principle is that great care should be exercised in the application of mechanical restraint in all forms of asthenic

delirium, lest the encroachment on respiratory capacity lead to pulmonary complications which jeopardise the life of the patient. Whenever possible, physical restraint is very much less dangerous. The meeting of the fourth indication, viz., the discovery and removal of the cause of the delirium, is after all the most essential procedure in the treatment of this symptom. To do this the pathologic association must be determined, and then our ammunition levelled directly against it, while simultaneously the three first enumerated principles are guiding us in symptomatic therapy. (Medical News, February 26, 1898.)

ENCEPHALOPATHY, SYPHILITIC.

Dr. W. R. Dawson said that of all the diseases which simulated general paralysis, that which presented the greatest difficulties in diagnosis was cerebral syphilis. The following was a case in point: A gentleman, aged 45 years, with a bad nervous heredity and a history of syphilis and chronic alcoholism, and of an attack of delirium tremens, and who had suffered from ocular paralysis some years before, recovering with abstinence and iodide of potassium, became affected with a form of mental alienation characterised by grandiose delusions and some mental weakness. There was extensive paralysis of intraocular muscles, ptosis, general tremor, flattening of the face, increased knee-jerks, muscular and cutaneous sensory abnormalities, and, perhaps, girdle pains, cardiac weakness, and a rupial skin eruption. Speech was not affected. Abstinence and iodide once more proved effective, and the patient, after passing through a melancholic stage, recovered in about seven months. The disease, therefore, proved to be syphilitic, and, as there had been no headaches or congestion of the papilla, could not have been extensive. As there was evidence of a lesion of the nuclei of the third and other cranial nerves, the locality was at the base, and for this and other reasons it was probable that the disease affected the cortex—perhaps, from the mental symptoms, that of Flechsig's frontal association centres—by way of the vessels, the mental symptoms being due to partial anæmia of nervous structures, weak by heredity, and impaired by alcohol and other agencies. (British Medical Journal, January 8, 1898.)

EPILEPSY.—Surgical Treatment of Traumatic.

Examination before operation revealed in five of ten patients a distinct depression of the skull, the existence of which, as well as of changes in the membranes, was confirmed at operation. In three others there was apparently a slight depression found before and at the operation, and corresponding to this a slight thickening of the dura, neither of which lesions, however, was so marked as to lead us to expect that a cure would follow its

removal. In another case, while there was no external evidence of injury to the skull, yet there was found at operation on the surface of the brain, directly under the cicatrix of the scalp, marked evidence of disturbance of the blood circulation, presumably due to the traumatism. Of these nine traumatic cases there were cured, 3; improved, 4; unimproved, 2. The histories show that of the three patients whom we may regard as cured, two had received their injury within a year of the time of operation, and in each of these the skull had evidently been severely damaged, as was shown by the well-marked depression found at operation. In the other case two years had elapsed since the injury, but this had apparently been much less severe, the depression of bone, as also the thickening of the dura, being but slight. This latter case differs from the two former as regards both the situation of the lesion and the character of the epilepsy. In the former cases the lesion was situated directly over the motor area, and evidently had acted as a cortical irritant sufficient to produce convulsive muscular movements. In the latter case the lesion was situated in the occipital region, and the attacks were psychical rather than motor in character. In this connection it may be of interest to note that in the two of the other patients in this series, whose point of cortical irritation was in a somewhat similar region, at a distance from the motor area, the psychical element was a marked feature of their attacks. It is also of interest to note that in one case, where the lesion was situated in the left frontal region, the motor element was predominant and the psychical but little noticeable. In the six traumatic cases who were not cured the injury had been received many years prior to the operation, and a condition of chronic epilepsy had become well established. (From Dr. A. J. McCosh's paper in the *American Journal of Medical Science*, May, 1898.)

EPILEPSY.—The Opium-Bromide Treatment of.

Dr. Warda describes Flechsig's method as follows:—Opium is administered for six weeks in gradually increasing doses until the daily amount of 15 or more grains is reached. The opium is now withdrawn and the bromides in large doses substituted. His personal use of the bromides is described as commencing with the daily dose of 90 to 130 grains, to continue this for three or six months, then, by reductions each six months, to come to 15 to 30 grains daily after two or three years. Rest in bed, intestinal irrigation, and attention to diet aid this treatment. The history of 44 patients, including 11 of Bennecke, is given, with the result that 27·5 per cent. were decidedly; the same percentage slightly, improved, 42·5 per cent. unchanged, and one became worse (fatal result). Since,

according to this study, 55 per cent. were improved, the method may be understood as a real advance in the treatment of epilepsy.—*Monatschrift für Psychiatrie und Neurologie*, 1897, Heft 4. (American Journal of Medical Science, January, 1898.)

HEADACHE.

At the session of the College of Doctors of Medicine, Nov. 29, Benedikt spoke at length upon headache and its treatment. He recommended for essential headache, the iodides, electricity, and the actual cautery, the wounds made by the latter being kept open by an irritating ointment. In symptomatic headache (occurring in connection with constitutional maladies such as anæmia, congestion, nephritis, &c.) treatment should be directed toward the disease itself. In hemicrania, Benedikt also recommended the iodides and faradisation. Naturally, these measures will relieve, and not cure, the trouble, as migraine is a congenital constitutional affection. He employs iodides and mercurials for headache produced by tumours of the brain, as he finds these remedies have a favourable influence upon the symptoms, even when the tumour is not syphilitic. Before applying the cautery the head must be shaved. According to his view the head is too frequently trephined for pain in connection with cerebral tumours. Such treatment rests upon a misconceived idea that pressure in such cases is the cause of the headache. (Medical News, January 15, 1898.)

Headache.

(By Dr. H. T. Pershing). In treating headache due to syphilitic infection, mercury and potassium iodide should be administered, even in cases where the infection is at all doubtful. Arterio-sclerosis calls glonoin in gradually increased doses to lower blood tension and for small doses of potassium iodide. Migraine is a very obstinate disease. Morbid conditions of the eye, nose, teeth, stomach or pelvic organs should be corrected, not with the view that they cause the disease, but because they irritate and exhaust the patient who is already sufficiently afflicted. The nerve treatment should be carried on during the intervals. Cannabis indica is more nearly a specific than any other drug. Beginning with one-twelfth of a grain of Herring's extract three times daily, the dose should be increased to the limits of easy toleration. The antipyretics may succeed for a few times, but the dose must be rapidly increased, and they soon fail to give substantial relief. The best treatment during an attack he considers to be codeine and caffeine. In headache due to the uric acid diathesis, the diet should be regulated. Starch should be interdicted. The

salicylates are as truly specific as potassium iodide for syphilis. No antipyretics should be given in cases of neurasthenia or hysteria. The persistent use will make the general condition worse. As a sedative opium and cannabis should be administered. Iron is of use, if the hæmoglobin is reduced. Mineral acids seldom do good, and often do harm. In cases of extreme weakness, the rest-cure, as systematised by Weir Mitchell, is of the greatest value. The mental treatment of such patients is an art full of difficulties. Complete reassurance after a thorough examination is the first and most important step in a well considered course of treatment. The patient must be taught to avoid talking of sickness, and to persevere in trying to crowd out the depressing thoughts. (Journal of the American Medical Association, March 19, 1898.)

HYDATID OF BRAIN.

Dr. W. B. Vance records a case in a man aged 36 successfully operated upon by Mr. O'Hara. The patient had a right hemiplegia and aphasia. There had been fits in the early part of his illness. With a two-inch Victor Horsley trephine Mr. O'Hara on January 21 removed a piece of bone over the left motor area. On removing the disc no pulsation of the brain could be seen. An exploratory needle was introduced into the brain, and a quantity of clear fluid was withdrawn. Mr. O'Hara accordingly incised through the dura mater into the brain, and in the motor area struck a cavity about the size of a bantam's egg. The cavity was lined with a semi-transparent membrane. After thoroughly cleaning out the cavity and inserting a drainage tube, Mr. O'Hara brought the dura mater together with sulphochromic gut. The scalp wound sewn and dressed antiseptically. Next evening patient had an epileptic fit. Tube was withdrawn, and fit ceased shortly after. For the first few days patient had a slight rise of temperature, which gradually settled down. Wound healed by first intention. Patient was discharged on February 2, the power of grasp in right hand being somewhat improved. The fluid was very kindly examined by Dr. Mollison, who, although finding no hooklets in it, considered it to be hydatid fluid. The fluid contained excess of sodium chloride.

Mr. O'Hara remarks that eight years ago he had the pleasure of exhibiting at the Melbourne Branch of the B.M.A., a boy, from whose brain he had removed a large hydatid cyst. The boy had made a perfect recovery from a condition of complete left hemiplegia and double optic neuritis, and was able to attend to his scholastic duties. In this case the symptoms began to disappear within forty-eight hours of the operation, but from notes published by Dr. Vance it is seen that only the

arm up to the present has shown signs of improvement. However, even this is encouraging, and leads to hope that the other injured centres may recover in time. In performing the operation a trephine sufficiently large to expose the leg and arm centre and a portion of the third left frontal convolution was used. All three formed part of the adventitious capsule, and were slightly harder and less yielding than normal brain substance. (*Australasian Medical Gazette*, February 21, 1898.)

HYSTERIA IN CHILDHOOD.

Terrien (*Arch. de Neurologie*, October and November, 1897) reports eighteen cases in Vendée, where he thinks it particularly frequent: eight of these children were under four years of age. He considers it identical with the hysteria of adults, except that on account of the age it is often hard to determine some of the stigmata. He also thinks that it is not a purely psychological affection. It may simulate various organic diseases, especially meningitis; in one village he noted an epidemic of hysterical coxalgia, due to imitation. It may also be associated with other nervous affections. The diagnosis, on account of the difficulties in examining young children, is much more difficult than in adult life. The individual symptoms are probably less tenacious than in the adult, but they are so readily reproduced and other symptoms are so easily developed that he doubts if the prognosis is really any more favourable. An alcoholic heredity plays an important part, as well as a neurotic heredity; in Vendée six to eight litres of wine a day seems a very reasonable amount for one peasant. The prevalence of superstition has also a marked effect in that region. Isolation he found rarely practicable. Hypnotic suggestion gave him good results, but owing to the superstitious of the peasantry he was compelled to abandon it, and, since giving it up, the results of treatment have been less satisfactory. (*Boston Medical and Surgical Journal*, February 10, 1898.)

HYSTERIA IN SURGICAL PRACTICE.

The most skilled diagnosticians will often be misled by the mingling of real diseases with hysterical hyperæsthesia, anæsthesia, paresis, and seemingly complete paralysis. As a valuable aid to diagnosis the author referred to Patrick's method of diagnosing hysterical hyperæsthesia or anæsthesia by means of the shifting border of the affected area. The surgeon most frequently meets with hysteria in joint and spinal ailments, and a surgeon should always remember to avoid mistakes in diagnosis and prognosis in the case of hysterical joints, as they bear such a close resemblance to joints, the seat of disease. These hysterical joints often follow an injury, and there will be slight

atrophy but no local rise of temperature; in fact, the temperature may be sub-normal, no marked swelling, but slight puffiness may be noted. There is usually marked restriction of motion, which is voluntary in character, however, and readily overcome when the patient's attention is directed to something else. The muscular spasm in these cases is more pronounced and different in character from that in tuberculosis, and the deformity is often exaggerated and differs considerably from that which is present in disease. Hysterical joints are, of course, most prominent in hysterical persons, but have been observed in persons not in any way hysterical. The prognosis in the case of a hysterical joint is good, and it is very rare that organic changes occur. (From Dr. James E. Moore's paper in the *Medical News*, May 7, 1898.)

INFLUENZA AND INSANITY.

From my own observations, I am inclined to adopt the view that influenza alone is sufficient to produce mental derangement, and not without good reasons:—(1) In a number of cases no family or individual predisposition is to be noticed. (2) Many of the individuals affected are young persons, and even in children acute mania and acute melancholia has been noticed. (3) In most cases the patient, after his recovery from acute influenza, was still troubled with sleeplessness and symptoms of depression, which continued up to the outbreak of the more severe mental symptoms. (4) That similar affections are occasionally noted after other acute zymotic diseases, notably typhoid, &c. (5) That many of these cases recover after a short period. Those cases where there is a family predisposition present a less favourable prognosis, and these find their way to an asylum along with the cases of the third and fourth group, in the causation of which influenza only plays a very subordinate part. This, I think, is best illustrated by the statistics I gathered from the admissions into the Cheadle Asylum during the last seven years; and I desire to thank Drs. Barnard and Sutcliffe for their kind assistance in this matter. I find that there were admitted five cases of mania, following shortly after influenza; of these four completely recovered; one, a male patient, aged 49, was discharged relieved, after suffering from great mental exaltation, his symptoms resembling somewhat those of general paralysis. In none of the five cases, whose ages ranged from 19 to 40, was there a family predisposition to insanity, and in all of them the attack was the first. Of nine cases of post-influenzal melancholia five recovered, and of these there was only family predisposition in one; one died of phthisis; and, of the other three, two are still in the asylum (one has had several attacks of melancholia before the last attack, the other had a strong family history, and is now

demented), and the ninth, also with a family predisposition, was discharged not relieved. Two cases of general paralysis were admitted, said to have shown the first symptoms after influenza; both showed strong family predisposition, and one died soon after admission. Of two cases of post-influenzal dementia, one had a strong family history; the other a history of alcoholism. In one case of senile dementia the symptoms seemed to have come on soon after influenza. I believe I am right in saying that many more cases of post-influenzal psychosis were under observation as boarders without being certified. (From Dr. Julius Dreschfeld's paper in the *Medical Chronicle*, March, 1898.)

INSOMNIA.

Speaking editorially in regard to sleeplessness, *Modern Medicine* says:—In not a few sleeplessness is the result of long indulgence in pernicious habits, mental and physical, in regard to sleep, such as irregular hours, various dissipations, the conning over after retiring of the difficulties and reverses and perhaps the successes of the day. Some people are rather loath to believe how much can be done to recover the power of going to sleep at will. They should be encouraged in the effort; every cause of disturbance removed; and such conditions sought as will bring about composure of mind. In the treatment of insomnia, then, our first duty is to seek out diligently and to right intelligently such obvious causes as may exist so as to remedy derangements, whether of stomach or intestines; to stop the ingestion of unsuitable food and drink; to relieve constipation; to stimulate the free elimination of fatigue products; to relieve local irritations and reflex disturbances; to stop overwork, and bring the daily duty within the capacity of the worker; to relieve anxiety; to correct, as far as possible, all disturbances of circulation; to relieve anæmic and debilitated conditions; to secure due regard to sanitary requirements; to cultivate good habits of sleep. In all this our aim is to remove all sources of irritation, direct or reflex, from the cerebral cells; to supply them with ample nutrition, and to cultivate healthy habits in them. Not until these indications meet is the resort to hypnotics legitimate, unless it is to overcome a temporary condition, and further use of them is injudicious, if not injurious. (*Medical Age*, April 25, 1898.)

LAMINECTOMY IN PRESSURE PARAPLEGIA, WITH RECOVERY.

Before the Clinical Society, Mr. J. Hutchinson, junr., showed a girl, aged 12, whose spinal symptoms came on when 10 years of age, eighteen months before admission, the spinal curvature

having occurred much before this. She had been treated by rest, galvanism, &c., and on admission there was complete motor paralysis of both legs, ankle clonus, marked anæsthesia of legs and abdomen, knee jerks exaggerated, plantar reflexes extremely marked. There was imperfect control of bladder. Laminectomy was performed in December, 1895, the laminæ of four upper dorsal vertebræ being removed. The patient was sent out in February, 1896, still with motor and, to a less extent, sensory paralysis, and with tendency to frequent involuntary flexion of thighs. She was readmitted in July, 1896, for cystitis, and at that time a note was made that no benefit had accrued from the operation, although pressure had been completely removed from the back of the cord. The apparent failure of the operation to improve the paralysis pointed to chronic inflammatory change in the cord itself as the result of the operation having been too long deferred. About nine months after the operation, however, the patient began steadily to improve, sensation being the first to return. Ultimately muscular power was completely restored. She can now walk several miles, the back is perfectly strong, and it feels as if new bone had developed at the site of the operation.

Mr. F. C. Wallis showed a man, aged 38, in whom he had performed laminectomy for paraplegia two years ago. There was a strong family history of phthisis. He was admitted in March, 1896, having complained eighteen months before admission of pain at the bottom of the spine, pins and needles, loss of power, &c., for two months previously. There was no anæsthesia, no bladder trouble, but he complained of girdle pain. When admitted he had complete paraplegia and prominence of lower dorsal vertebræ. On March 28, laminectomy was performed, three laminæ being removed. Ten days later the pain had disappeared, and three weeks later power began to return in the legs. (*Medical Press and Circular*, March 2, 1898.)

MAL PERFORANT TREATED BY NERVE ELONGATION.

A. Chipault (*Gazette des Hôpitaux*, 1897, No. 127) recommends nerve stretching as a cure for perforating ulcer of the foot. In order to procure a good result, he states that the elongation must be carried out neither too near nor too far from the seat of the ulceration. His method is as follows:—First the internal and external plantar nerves are stretched either singly or together, then the external saphenous nerve is stretched; at the same time the ulcer is kept scrupulously clean. Its edges are sewn together and covered with an antiseptic dressing. In twelve of the fourteen cases Chipault claims to have brought about a cure. This method is also recommended for the treat-

ment and cure of similar disturbances in amputation stumps, and in long-standing trophic skin diseases, *e.g.*, herpes. (Medical Record, March 5, 1898.)

MENINGITIS, CEREBRO-SPINAL.—Cause of.

There is no doubt that acute meningitis may be produced by the entrance into the meninges of a number of infectious organisms. These forms are rarely primary. The organisms enter the meninges either by the formation of a communication between the meninges and some cavity where they may be accidentally present (as in the middle ear and nose), or by the extension to the meninges of an infectious process in the vicinity (mastoiditis, erysipelas), or they are brought to the meninges by the blood from some other focus in the body (pneumonia, endocarditis). In tuberculous meningitis we have never found a single case in which the lesions in the meninges could be regarded as primary. We believe that all infections of the meninges other than the diplococcus intracellularis are fatal, but this can only be determined by microscopic and bacteriological examination of the exudation obtained during life by spinal puncture. If tubercle bacilli, pneumococci, or streptococci are found with the evidences of meningitis in a case which recovers, it would settle the point; clinical evidence, without spinal puncture, will not. (From Dr. Councilman's paper in the Boston Medical and Surgical Journal, February 17, 1898.)

MENINGITIS, TUBERCULOUS. — Recovery after Lumbar Puncture.

Dr. William L. Stowell presented to the New York Academy of Medicine (*Pediatrics*, Vol. IV., p. 415) a boy of 5 years, whom he had first seen on August 30, 1897. The history was that, on August 1, he had had a spasm, and had remained unconscious for 24 hours afterwards. After this he had been more or less drowsy for two or three days, and had cried frequently. The convulsions had been supposed by the attending physicians to be due to indigestion. When the child was first seen he was in a semi-stupid state, with a sharp hydrocephalic cry, and irritable at times. The pulse ran between 120 and 150, and was sometimes intermittent. At the end of 28 days he had developed Cheyne-Stokes respiration, and lay curled up, with the head thrown back. The abdomen was slightly flattened. On September 1 he became totally blind; the pupils were widely dilated, and did not respond to light. The diagnosis of tubercular meningitis was made, lumbar puncture was performed, and about ten cubic centimètres of clear fluid were slowly withdrawn. Tubercle bacilli were found, thus establishing the diagnosis. Much to the writer's surprise, about a week later the boy had been

brought to the dispensary. There was still absence of vision, with dilated pupils, loss of accommodation, and hazy discs. The condition of the eyes had gradually improved since then, so that he could now see fingers before him. Dr. Stowell said that he had only been able to find one case of lumbar puncture in which the diagnosis had been positively made which had recovered. (Treatment, January 27, 1898.)

Meningitis, Tuberculous.—The Pulse in.

Much importance is attached to the pulse rate in both early and late stages of the disease. In those under two years old the pulse was found to be 160 in nine cases, as the highest; in one case only was it lower than 100. Irregularity of the pulse in those under two years old is not as frequent as in children over two years. Twenty-nine cases which could not be observed more frequently than these were cannot be relied on as infallible guides, or even aid, in the diagnosis, but the 20 cases in the other children equally well observed presented at some time an irregular pulse, while under two years the pulse rate is more uniformly higher and regular. In those over two years the reverse was found, the highest pulse rate being found in the later stages of the disease, and at all stages more or less irregular. The highest pulse rate noted was in a child over two years old, 180. The lowest of the highest recorded was 80; the highest of the lowest was 120, the lowest 60. The 20 cases over two years old, while presenting the irregularity usually observed, did not present the slow pulse which is considered one of the pathognomonic signs of early tubercular meningitis. In children five years or over the slow pulse is much more apt to be found. This symptom of an irregular pulse I believe to be of more importance than a simply slow pulse which may be found in other diseases. (From Dr. Annie S. Daniel's paper in the Journal of the American Medical Association, December 11, 1897.)

NERVOUS SYSTEM IN DIPHTHERIA.

The changes in the nervous system produced by diphtheria are :—(1) A marked parenchymatous degeneration of the peripheral nerves, sometimes accompanied by an interstitial process, and hyperæmia and hemorrhages; (2) acute diffuse parenchymatous degenerations of the nerve fibres of the cord and brain; (3) no changes, or but slight ones in the nerve cells; (4) acute parenchymatous and interstitial changes in the muscles, especially the heart muscle; (5) occasional hyperæmia, or infiltration, or hemorrhage in the brain or cord, in rare cases severe enough to produce permanent troubles, such as the cases of multiple sclerosis and of hemiplegia which have been observed. Finally, the probability that the cases of sudden

death from heart failure in diphtheria during the disease, or convalescence, are due to the effects of the toxic substances produced in the disease upon the nerve structures of the heart. (From Dr. J. Jenks Thomas's paper in the Boston Medical and Surgical Journal, February 10, 1898.)

NEURALGIA, TRIFACIAL.

This subject is merely mentioned because the removal of a part of the Gasserian ganglion requires the opening of the calvarium. The uniformity with which sections of the distributing branches of this nerve are followed by a return of the symptoms had induced some operators to advocate the removal of the Gasserian ganglion as a primary operation. As yet this is not a justifiable procedure, but as a secondary operation for the treatment of inveterate, recurring tic-douloureux it is certainly warranted. The basal method of Rose has been superseded by the Krause-Hartley osteoplastic flap operation. The ganglion can be readily reached by an opening in the temporal region, which admits of elevation of the temporal lobe. It is impossible to remove the first division of the nerve without injuring the cavernous sinus and adjacent nerves. The other divisions can be divided and removal of much of the ganglion by divulsion readily effected. The procedure is very difficult and the mortality is large, but in severe cases it should be advised. Nerve union by regeneration has been prevented by Abbe by the interposition of a small piece of aseptic rubber tissue. (From Dr. Albert J. Bouffleur's paper in the Journal of the American Medical Association, April 23, 1898.)

NEURASTHENIA.

(By Dr. Dercum, *Alienist and Neurologist*, October, 1897.) The author commences by insisting upon the conception of neurasthenia as a "fatigue neurosis." The primary symptoms always present the essential characteristics of weakness and irritability, and are always expressive of fatigue. The secondary symptoms are adventitious outgrowths of the primary fundamental symptoms. For example, in sensory disturbances, we find first a general sense of fatigue. The sensation may be diffused throughout the entire body, but it is generally accentuated in special regions or limbs. It is characteristic of this sense of fatigue that it is in simple and typical cases always relieved or lessened by rest, and always brought on, if absent, or made worse, if present, by exertion. This readiness of fatigue the author regards as the primary and fundamental symptom of neurasthenia. When the fatigue sensations become exaggerated, they become painful, and they are then described as aches by the patient. They may take the form of headache, backache, or

aches in limbs, according to the circumstances of the patient or his employment. Not unfrequently, however, there are associated with these sensations others which are secondary. Thus the headache may be accompanied by pressure sensations, or a feeling of lightness and distension, or of giddiness or of distress; the backache by patches of local hyperæsthesia over the spinal region; the limb aches by various paræsthesias and peculiar sensations. In the visual functions, the primary symptoms are often followed by such subjective sensations as seeing everything through a mist or veil, or as seeing objects unnaturally large or at a distance. In the same way the author treats of the auditory, digestive, sexual, and psychical functions. Space only permits us to refer to the last mentioned. Among the prominent primary psychic symptoms of neurasthenia he places a diminution of the capacity for mental work, a want of power of concentrating the attention, which the patient frequently mistakes for loss of memory, a lack of spontaneity of thought, a diminution in the strength of the will, a condition of general indecision, and of mental and emotional irritability. The chief secondary symptom of this state he considers to be an apparently causeless general sense of fear. This general sense of fear may, however, assume specialised forms, which are well known as the various "phobias." Finally, he describes under the name "neurasthenia terminalis" the organic tissue change which ultimately succeeds prolonged and persistent derangement of function. This final stage of the affection is, however, only briefly alluded to in the paper. (Edinburgh Medical Journal, April, 1898.)

NEURITIS OF SPECIFIC ORIGIN, RECURRENT MULTIPLE.

In "Some Rare Affections," in the *New York Polyclinic* for February 15, is reported a case of this rare condition in a man 35 years old. There was marked paresis of both lower extremities, considerable atrophy of the anterior thigh muscles, weakness of these and the lower spinal muscles. The muscles below the knees were less affected, but distinct atrophy of both anterior tibial groups. The anterior thigh muscles did not respond to the faradic current and galvanic response was diminished. The knee jerks were absent. On mercurial treatment the right knee jerk soon returned, the left only by reinforcement. The volume of the thigh muscles of the right thigh improved more rapidly than of the left. In eight weeks the patient was able to walk without assistance, but there has been vacillating behaviour of the knee jerks, immobility of the pupils, transitory ptosis and transitory palsy of the tongue during the succeeding two years, with subjective disturbances

of sensation at intervals. (Journal of the American Medical Association, April 2, 1898.)

ORDINARY CHOREA IN CHILDREN.—Treatment of.

Drs. Weir-Mitchell and J. W. Rhein (*Philadelphia Medical Journal*, Vol. I., No. 4, 1898) divide the motor symptoms of chorea into five clinical species—or at least varieties:—(1) Cases which show—some at one stage of the disease, some throughout their course—an absence of movements during rest, requiring muscular action to develop what may be either mild or severe choreiform movements. This they regard as the rarest variety. (2) Cases in which the movements are continuous during rest, but become greatly increased on intentional effort. This, they remark, implies lessened inhibition manifested during willed muscular efforts. It is the usual type described. (3) Cases with severe choreiform movements which disappear entirely when muscular acts are performed. This suggests that inhibition is for the time increased. (4) Cases in which the movements seem unaltered by voluntary muscular efforts. (5) Cases which present during their course at different times more than one of the types described. (From Dr. Guthrie's Summary in Treatment, March 10, 1898.)

PARALYSIS, POST-ANÆSTHETIC.

M. Schwartz points out that there are two main groups of post-anæsthetic paralysis:—First, those of peripheral origin, chiefly involving the brachial plexus or its branches, and partaking of the clinical type described by Erb. The muscles usually affected are the deltoid, brachialis anticus, triceps, and supinator longus. They are traumatic in origin, the nerve-trunks being compressed or stretched by traction on the arm in the abducted position, or by constriction with the elastic tourniquet. Secondly, those of central origin, which are very much rarer and which may be classified as follows:—(1) Simple monoplegias; (2) paralysis of one or more cranial nerves, with or without paralysis of the limbs; (3) hemiplegias. Schwartz does not incline to regard these central palsies as mere coincidences, or as the result of intoxication by the anæsthetic; he believes they are met with in individuals who are the subjects of arterio-sclerosis, who, during the period of excitement, rupture one of the cerebral vessels. In certain rarer cases, hysteria may account for the paralysis. Chipault (of Paris) referred to a case in which a right-sided hemiplegia was observed after an operation performed under chloroform; the patient died some time afterwards, and the autopsy revealed the existence of a ventricular hemorrhage. Reboul (of Nismes) reported the

occurrence of hemiplegia, after the operation of suprapubic cystotomy, in a man of 60, in which the administration of chloroform had been unattended with any incident.—“*Cong. français de chir.*,” 1897, *Rev. de chir.*, Paris. (Edinburgh Medical Journal, March, 1898.)

SCIATICA.

Biro (*Deut. Ztschr. f. Neuroheilkunde*, November, 1897) has studied a series of cases of sciatica with the object of making a more exact differential diagnosis between sciatic neuralgia, sciatic neuritis, and hysterical conditions. He believes that in the condition of the Achilles-tendon reflex may be found a distinctive diagnostic criterion between neuralgia and neuritis; every case in which this reflex is diminished or lost is to be regarded as a neuritis, provided, of course, that diseases of the joints and of the spinal cord itself be excluded. In twelve cases the Achilles-tendon reflex was diminished or lost, and in eight of these muscular atrophy was observed in the muscles supplied by the sciatic nerve, with qualitative changes in the electrical reactions, and, in one case, with actual reaction of degeneration. In neuritis the special painful points are often wanting, occurring in only 42 per cent. of the cases; in neuralgia they are found in 84 per cent. Other sensory disturbances are rare in neuralgia, but are noted in half the cases of neuritis. In some cases hysteria may resemble sciatica. In these cases the painful points are rare, there is no pain on passive movements, nor is there any pain on flexion of the extended leg on the trunk. There is often a striking disproportion between the disturbances of function or the patient's complaints and the objective signs. The symptoms may be inconstant, the pain shifting from one side to the other; hysteria also may affect young women, while sciatic neuralgia or neuritis is more common in men of middle age. Out of 156 cases, about 7 per cent. were regarded as hysteria and 14 per cent. as actual neuritis. (*Boston Medical and Surgical Journal*, February 3, 1898.)

Sciatica, Electricity in.

In a communication to the *Deutsche Med. Woch.* of January 6, Stanowski protests against Möbius's recent assertion that ischias is not benefited by electrotherapy, and describes several extremely severe cases of long standing cured completely by it. He states that he has secured the best results with:—(1) The application of the galvanic current, avoiding much variation in the strength of the current; (2) the application of an electrode large enough to cover the entire region from the sacrum to the great trochanter on the affected side (30 x 20 cm.); (3) applying the other electrode to the sole of the foot, to which

it must correspond in size ; (4) the current passing down the leg, the positive pole on the sacral region, and the negative pole on the foot ; (5) half-hour treatments at least, and, better still, three-quarters to an hour each time ; (6) the current so graduated that the patient feels no unpleasant sensation from it, especially no tendency to cramps in the leg. He commences with 30 milliamperes in the first sittings, afterwards 8 to 10. The electrodes must fit close to the surface, which is protected by a sponge on the sole and four folded towels on the sacral region. The plates are held in place with a leather band. In three and one-half months he transforms helpless, pain-racked invalids into vigorous bicycle riders: his success has been constant. (*Journal of the American Medical Association*, February 19, 1898.)

SYPHILIS, CEREBRAL.

As prognosis in cerebral syphilis depends largely upon treatment these two will be considered together. Gummatous lesions are favourably influenced by iodide and mercury; secondary lesions are not. Treatment of the gummatous lesion is so effective that a case may present the very gravest symptoms of severe brain disease—delirium, convulsions, coma—and yet get well. Whereas treatment of the secondary changes is ineffective, though these are usually associated with syphilitic lesions susceptible to iodide. Prognosis, therefore, depends not so much upon the extent and situation of the syphilitic lesions as upon their age at the beginning of treatment and consequently the nature and extent of the secondary changes which they have set up. Earliness of treatment, then, is a most important consideration in prognosis. And as this depends upon the earliness of diagnosis the importance of making a correct diagnosis at the earliest possible period is supreme. As these patients are at any time liable to become blind, or to die in an epileptiform attack, or of hemorrhage from a gummatous artery, it is important also to get them under the influence of antisyphilitic drugs as soon as possible. For this reason mercury should be given as well as iodide, and both in doses rapidly increased to the limit of toleration. The mercury may be given in the form of mercurial ointment by inunction, in doses of half a drachm to a drachm or more every night, unless toxic symptoms appear; and at the same time iodide, beginning with thirty drops of the saturated solution a day, and increasing at first rather slowly to a drachm, and later, if toxic symptoms are not conspicuous, increasing very rapidly. If the patient is vomiting, the iodide may be given by rectum. Two hundred grains a day by mouth is not at all an extraordinary dose. Ten grains, three times a day, constitutes neither a reliable

therapeutic test nor efficient treatment. (From Dr. C. Norton Barney's paper in the Boston Medical and Surgical Journal, December 30, 1897.)

SYPHILITIC CEREBRAL ARTERITIS.

In regard to syphilitic cerebral arteritis it is a noteworthy fact that the symptoms of malnutrition of the nervous tissues are well developed, for the paralysis when it comes on is usually of the flaccid type with loss of the reflexes; and hemiplegia, or more often monoplegia, with partial involvement of groups of muscles, is the condition of the patient. Teissier and Roux (*Arch. de Neurologie*, January and February, 1898) believe that these symptoms in a non-hysteric and previously healthy individual are very pathognomonic. Headache is comparatively rare, is diffuse, and not produced by pressure or tapping the vault of the skull, but there may be perverted sensation as of numbness of a limb or formication as prodromes of the onset of the paralysis just named. Optic neuritis is rarely seen in syphilitic arteritis, although syphilitic lesions of the retinal vessels may be evident. Ocular palsies are rare, and arise from secondary lesions as by the pressure of an aneurismal growth on the nerve involved. The intelligence usually fails gradually, due to the impaired cerebral nutrition, and if any mental strain is present may rapidly give way for this reason. Transitory aphasia is an important symptom, and is often associated with paralytic symptoms of one side of the face and of the right arm. Very rarely, when the arteritis has developed so far as to result in a thrombus with secondary degenerative changes in the pyramidal tract, the paralytic symptoms just named are spastic instead of flaccid. (From a leading article in the *Journal of the American Medical Association*, April 2, 1898.)

TABES.—Early Diagnosis of.

Sensory disturbances other than pains are common in the first stage of the disease. Thus analgesia without loss of tactile sensation may be present. The patient may feel the prick of a pin as a touch, but not as a pain. This disturbance is generally observed first in the lower extremities. Quite recently Bonar has called attention to the existence of large areas of anæsthesia in the early stage of tabes. This loss of sensation may involve any area of the skin, but is not usually noticed by the patient unless the extremities are affected, in which case the patient may observe that he can not feel objects held in the hands, or that he does not perceive the bedclothes with his feet. Paræsthesias, such as numbness or prickling, and anæsthesia in the area of the distribution of the ulnar nerves in the hands are sometimes complained of early by tabetics.

Disturbances of the functions of the bladder may occur early. These may manifest themselves by sluggish micturition or by incontinence. The patient may not be able to start the urinary stream readily, or he may be unable to completely evacuate the bladder, thereby running the risk of developing cystitis and secondary kidney disease. Incontinence of urine may occur only at night, the patient waking in the morning to discover the saturated bed sheets. (From Dr. Meirowitz's paper in the *New York Medical Journal*, February 12, 1898.)

TETANY.

In an article on this subject in the January number of the *Archives of Pediatrics*, the editor, Dr. Floyd M. Crandall, states that the onset of the paroxysms may be preceded by sensory symptoms, but is commonly sudden and without warning. The attack frequently occurs as the child awakens, and the spasm is sometimes continuous, lasting for days or weeks. In many cases, the author continues, the spasm is limited to the arms and legs. Occasionally the adductors of the thigh and arm are involved, so that the arms and legs are drawn forcibly together. In rare cases the muscles of the neck are involved, and occasionally those of the trunk and face. Laryngismus stridulus is a very frequent accompaniment of tetany. A peculiar suppressed sound is sometimes heard in the throat, which is due to spasm of the glottis, but it can not be strictly called laryngismus. Trismus is extremely rare in tetany, and never occurs in the early stage, as it does in tetanus. In a true case of tetany, in the interval between the paroxysms, pressure upon the large nerve trunks and arteries of the region affected will frequently induce a paroxysm. When this result occurs it is very characteristic, and is known as Trousseau's sign. There is no loss of consciousness in tetany. The knee-jerk is exaggerated, as are also the cutaneous reflexes; the electrical reactions are usually increased. The temperature is normal. Older patients frequently complain of pain due to the intense contraction of the hands and feet. Infants sometimes utter a suppressed cry, as if in pain, when the paroxysm is intense. (*New York Medical Journal*, January 22, 1898.)

TORTICOLLIS SUCCESSFULLY TREATED WITH CONIUM.

Dr. Graeme H. Hammond presented before the New York Neurological Society a young man who had developed torticollis during March, 1897, and in whom the spastic condition was still present when he first came under observation during September of last year. The patient was now taking 90 drops of the tincture of conium three times daily, and exhibited none of the

toxic symptoms of the drug. No improvement had been observed until the dose had been increased to about 40 minims three times daily. Dr. H. Allen Starr said that he had had a case which was very much improved by the same treatment after the dose had been increased to 30 minims three times daily. Dr. W. H. Thomson said that a very prominent oculist had caused the death of a patient suffering from blepharospasm by giving him 25 drops of the tincture of conium. Dr. Gray said that more than one fatal case from the use of this drug had been reported; the trouble seemed to be that it was impossible to obtain a stable and reliable product. If, therefore, he happened to secure a good preparation for a given case, he endeavoured to continue the use of the particular specimen until the patient recovered. Dr. Hammond said that most of the fluid extracts of conium found in drug-stores are almost inert. He always specified "Squibb's," and always began with a dose of 4 drops, and increased the dose by one drop daily. The system soon becomes tolerant of the drug. (*Medical News*, February 12, 1898.)

TUMOURS OF THE BRAIN AND INSANITY.

Among 588 cases of brain tumour occurring in a Roman institution for diseases of the mind and brain, Gianelli says (*Il Policlinico*, July, 1897) that 265 had no mental disturbances; the remainder had. Regarding the site of a tumour as determined by examination of the mental condition of the patient, the author has drawn the following inferences: (1) Hallucinations point to irritation of the corresponding sensory cortical centre, though the tumour need not necessarily be in the immediate neighbourhood of the latter; (2) the more often symptoms of torpor, slow intellection, and weakened memory occur in the beginning of the disease, the more probably is the tumour situated in the frontal lobe; (3) should the above-named symptoms occur late in the disease, the site of the tumour may be in other parts of the brain; (4) the psychological aberrations mentioned indicate simply a more or less marked morphological change of the cortex of the brain; (5) tumours of the corpus callosum appear always to be accompanied by mental aberrations; (6) a new growth, which runs its course like the classical picture of progressive paralysis, is very probably situated in the frontal lobes; (7) the tendency on the patient's part to spite and wittiness points to the frontal lobes as the site of the tumour, particularly to the right side; (8) again are the frontal lobes the probable sites when patients show change of character or tendency to become angry, to threaten, to insult, to become obscene. Attempts at tumour localisation depending upon the above inferences have but

a relative value, since the anatomical boundaries of cerebral functions cannot be sharply drawn. (Medical Record, April 23, 1898.)

WRITERS' CRAMP.

Dr. Short showed, before the Midland Medical Society, a case of writers' cramp affecting both hands. The patient, a clerk of 33, had the neurosis of his right hand eleven years ago, with marked wasting of the intrinsic muscles. (This condition had persisted and was still plainly seen.) He taught himself to write with the left hand. This year the left hand became affected with commencing atrophy of the thenar and hypothenar muscles. He was much depressed mentally. Electrical reaction showed diminution to both currents. Treatment with electricity, regular massage, and practice in shoulder writing had improved his condition and had obviated the necessity for leaving off work (a step which in his case meant ruin). (British Medical Journal, January 1, 1898.)

AFFECTIONS OF THE CIRCULATORY SYSTEM.

ANEURISM OF THORACIC AORTA.—Treatment of.

Solidification of the sac by the deposition of layers of fibrin is only possible in a well-marked sacculated aneurism, with a small opening into the aorta. This is best effected by prolonged absolute rest and a low, dry diet. Such cases, however, only form a small minority; and what advantage can there accrue from treating the vast majority on these routine principles, which are bound to fail, and which in other respects must injure the vitality of the patient and of his arteries? If the aneurism has attained large size, and is pressing on any important structure, then absolute rest, low, dry diet, saline purgatives, and other remedies which reduce arterial tension are imperatively demanded. In those cases which are recognised early, and where there are no reasons to suppose that the aneurism is so distinctly sacculated that the remora of blood will admit of the deposit of fibrin, the best treatment is to adopt those measures which will lessen the further progress of the disease. Such objects are not attained by absolute rest in bed, but by allowing him a moderate but sufficient amount of walking exercise on the level; a light, dry, nutritious diet—not more than enough to maintain a healthy equilibrium. All alcohol must be absolutely interdicted. The blood pressure must be lowered, and kept low by saline purgatives: iodide of potassium, in 10-grain doses, thrice daily, to which may be added some of the other salts of potassium, and

antimonial wine. If the patient be distinctly gouty or syphilitic, appropriate remedies must be employed. If there be much pain, morphia is our sheet-anchor, but in some cases chloral hydrate answers equally well. If pneumonia, bronchitis, pleurisy, or pericarditis arise, we must employ suitable treatment, and about the first indication, under such circumstances, would be confinement to bed. Mental excitement must be avoided, and sexual intercourse forbidden. All business avocations need not be stopped, but there must be no bodily work nor mental worry. Straining at stool and all violent attacks of coughing must be obviated. Galvano-puncture is only admissible when there is a risk of external rupture, and such an occurrence is very rare. (From Dr. James Barr's paper in the *Liverpool Medico-Chirurgical Journal*, January, 1898.)

ANGINA.—Erythrol Tetranitrate in.

(By Dr. Edward Garraway.) Professor Bradbury, of Cambridge, published in the *British Medical Journal*, April 10, 1897, some notes of a case of angina pectoris, treated by trinitrine, and subsequently by erythrol tetranitrate. Having myself watched the case from its inception, a further report may prove interesting. To avert the paroxysms it became necessary to administer the remedy in steadily increasing doses. The patient takes now half a drachm in the day, that is, 6 grains at 6 a.m., to enable him to dress at 8 a.m.; 6 more at 10 a.m., 2, 6, and 9 p.m., together with $\frac{1}{25}$ gr. of trinitrine at 10.30 p.m., to enable him to ascend the stairs and get to bed. He is in perfect health, barring the seizures, which are always at hand if a tabloid chance to be omitted. No physiological effects whatever have at any time been manifested. As I apprehend that these doses of erythrol are unwontedly large, possibly unprecedentedly, the fact may be worthy of record. It is unfortunate that the preparation of this remedy is so costly, rendering it, as chemists admit, quite prohibitive to the poor. (*British Medical Journal*, January 1, 1898.)

AORTIC STENOSIS.—Sudden Death in.

Aortic stenosis is undoubtedly rare. It is often considered to be one of the less serious forms of valvular disease. A general opinion seems to exist that it but rarely leads to sudden death. With regard to this point, our experience in the pathological department of the Manchester Royal Infirmary may, possibly, not be without interest. Pure cases of aortic stenosis are only exceptionally met with in the post-mortem room. Among 1,635 cases examined during the period I have been pathologist I can only remember some five examples where the aortic stenosis

could be considered the essential feature. Of course, we have had a considerable number of cases in which aortic obstruction was associated with mitral stenosis, and many in which the stenosed aortic valve was prominently combined with aortic incompetence; but with these we are not at present concerned. In at least two of the cases death was unexpected, and probably in each "sudden." The five cases I have mentioned showed that while aortic stenosis may occasionally give rise to comparatively slight cardio-vascular disturbance, there is, nevertheless, considerable risk of sudden death from syncope. (From Dr. T. N. Kelynack's paper, *Medical Press and Circular*, May 11, 1898.)

ARRHYTHMIA OF THE PULSE.

Clayton (*Univ. Med. Mag.*, January, 1898) having made a special study of arrhythmia of the pulse, concludes that although this symptom in the majority of instances may not be of serious import, still it is often a result of grave nervous or cardiac changes, so that when recognised a careful investigation of its origin should be made. He says:—(1) That the prognosis in arrhythmia of purely neurotic origin is more favourable, so long as the patient is unaware of the disordered heart-beat, since anxiety and worry may have a marked tendency to increase the trouble. (2) That an arrhythmia which is present only occasionally is of less importance than one which is persistent. (3) That the disappearance of arrhythmia upon exertion is, of course, favourable, while one which becomes more marked is correspondingly unfavourable, as indicative of myocardial incompetency. (4) That, generally speaking, an allorhythmia (rhythmic arrhythmia) is of graver prognosis than an irregular arrhythmia, since this form is so often associated with myocardial degeneration. (*Medical News*, April 9, 1898.)

ARTERIO-SCLEROSIS.—Cardiac Hypertrophy in.

Hasenfeld (*Deutsche Archiv für klin. Med.*, Bd. 59, p. 193) has made an investigation of this subject in the Leipsic pathological and clinical laboratories. The details are of great interest, but, with the tables, must be consulted in the original. The conclusions are as follows:—Even physiologically, the splenic, hepatic, and superior mesenteric arteries have a small amount of connective tissue in the intima. Arterio-sclerosis of mild or moderate degree, only microscopic, is quite common in the splanchnic arteries, but marked sclerotic changes are much less common than in the aorta, the arteries of the extremities, and the brain. Sclerosis is usually most marked on the main trunks of the splanchnics, and becomes less in the branches.

Arterio-sclerosis only leads to hypertrophy of the left ventricle when the splanchnics or the thoracic aorta are severely affected. Arterio-sclerosis of the other vessels does not seem to have such an effect. In the five cases of contracted kidney examined, all the chambers of the heart were hypertrophied. If, at the same time, there was marked sclerosis of the splanchnics, the hypertrophy was most marked in the left ventricle. Extreme sclerosis of the aorta would probably have the same effect. Should further examinations confirm the results now given as regards the uniform hypertrophy of all parts of the heart, we must conclude that the cause of hypertrophy in contracted kidney increases the work of both sides of the heart and probably excites the heart to increased activity. (*American Journal of Medical Science*, February, 1898.)

CARDIAC DISEASE THROUGH INJURY.

At the Society for Innere Medizin, Berlin, Hr. Litten showed a patient in whom strict inquiry proved that he had acquired the disease through injury. Certificates showed that before the injury, and for some months afterwards, there were no positive signs of any disease of the heart. On August 30, 1893, he fell into an excavation 4 metres deep, falling with his left side on to the edge of a wheelbarrow. He was unconscious when taken out, but recovered consciousness some time later, and complained of pain in the left side. On September 13 he was admitted into the Charité, when nothing abnormal was discovered about the heart. A certificate given at the end of December stated that, notwithstanding the palpitation, there were no objective signs of cardiac disease. A traumatic hernosis was the diagnosis then arrived at. On April 26 he was discharged from hospital as completely unfit for work in consequence of disease of the heart. A period of eight months had therefore elapsed before physical signs of cardiac disease developed. At present the patient presented typical signs of aortic insufficiency. We had therefore to assume that endocarditis resulting from injury had led to the present condition. There could have been no tearing of the aortic valve from the fall, as signs of insufficiency would have followed at once had that been the case. (*Medical Press and Circular*, January 19, 1898.)

CARDIAC FAILURE.—New Auscultatory Sign of.

To the varieties of abnormal cardiac rhythm, M. Huchard now adds another, in which the two sounds of the heart are clearly approximated, and the diastolic pause relatively increased in duration. To this sign he gives the name of bradydiastole. It may be met with in some cases of coma, cerebral hemorrhage,

uræmia, and aortic insufficiency, and, so occurring, it need not necessarily be of grave significance. But in exhausted conditions following fever, in the later stages of myocarditic states with asystole, and in cases under the influence of digitalis, it may have the gravest import. M. Huchard has observed it soon before and during the last agony; and under these circumstances it may have a deceptive force, or *brusquerie*, which may convey the impression that the heart is not so near complete failure as it actually is. In many cases digitalis, which on previous occasions has acted admirably, fails to exert its beneficial influence; the diuresis significant of its favourable action fails to occur; œdema, which was wont to disappear, remains. According to M. Huchard, the bradydiastolic heart is indicative of actual or imminent dilatation of the ventricular cavity—a dilatation which digitalis aggravates instead of remedying. To combat this form of dilatation under these circumstances M. Huchard advises bleeding, the use of strychnine and spartein, and the hypodermic injection of camphor. (From Dr. Morrison's summary in *Treatment*, February 24, 1898.)

DIGITALIS IN THE TREATMENT OF DISEASES OF THE HEART.

In the course of the second of his Lumleian lectures (*Lancet*, April 2, 1898) Sir Richard Douglas Powell, Bart., M.D., remarks that the commonest mistake that one observes in the use of digitalis is that too large a dose is prescribed at first, which tends to premature arterial contraction and cumulative effects. Then, with the appearance of these physiological symptoms, the use of the drug is stopped, and that of some other medicine substituted until the pulse again calls for its administration. In this haphazard way of using digitalis the heart is never held in good control. In exceptional cases, where there is urgent need to push the drug, digitaline is best used subcutaneously. In ordinary cases a dose of 10 minims of the tincture every four hours, or 15 minims every eight hours, or 5 minims every waking hour is sufficient. Thus given, the patient being at rest, it generally takes about three days before the pulse is under control and the urine begins to increase. When its decided effects are thus gradually developed, the use of the drug should be steadily continued in doses calculated to maintain its effect. With ordinary watchfulness there is no risk whatever; timely warning of excess is given by the pulse, which, having become slow, begins to exhibit small intermediate beats, and especially a tendency to go in couples. This is always a sign to reduce the doses or to omit them for a few hours. The sickness that occasionally supervenes with digitalis is most troublesome. An occasional mercurial will sometimes prevent it, a change to

digitaline in equivalent doses may be tried. or a tumbler of very hot water may be taken occasionally. In some cases it is not to be overcome except by omitting the use of the drug; the patient is usually well under the influence of the drug before this symptom appears, in which case a small dose of digitaline by the mouth or hypodermically may be sufficient to maintain its effects on the heart. (New York Medical Journal, April 30, 1898.)

ENDOCARDITIS, TUBERCULOUS.

At the Society for Innere Medezin, Hr. Benda related a case. He said he had lately seen three cases of verrucose deposited on the valves of the heart in which tubercle bacilli were met with. The last case was somewhat peculiar. A child suffering from tuberculous coxitis died of acute miliary tuberculosis. As the autopsy showed, the miliary tuberculosis was very extensive, but still Weigerts's initial disease in the pelvic region could not be discovered. There was considerable verrucose deposit on the valves and on one of the cordæ tendinæ a yellow nodule the size of a linseed, consisting of vascularised granulation tissue without giant cells. The margin consisted of caseous detritus enormously rich in tubercle bacilli. (Medical Press, March 2, 1898.)

HEART, RHEUMATIC AFFECTIONS OF, IN CHILDHOOD.

In the treatment various local applications, such as ice-bags, leeches, or blisters over the præcordial area, have been advocated. Of these, ice-bags are the most useful, as they relieve pain in acute pericarditis, and, according to Dr. Lees, limit the amount of cardiac dilatation. Leeches may be employed at the outset of pericarditis, and followed by ice-bags, if desired; blisters are better suited for the later and more chronic stages. The administration of salicylates, which, in the acute articular rheumatism of adults, are given with such marked beneficial results, is of doubtful service; and, when drugs are given, an effervescing mixture, containing quinine and bicarbonate of potash, is perhaps as useful as any. Nothing, however, in severe cases seems to arrest or exert any controlling influence on the course of cardiac inflammation in children, when once it has gained a firm hold. It is, therefore, of the first importance that any indications of danger threatening the heart should be recognised as early as possible, and due precautions taken. If, then, a suspicion of rheumatism is aroused by complaints of stiffness in the joints or pains in the limbs in a child who comes of a rheumatic stock, or who has previously suffered from chorea or some other rheumatic manifestation, the patient should be kept under careful observation, and the heart examined every two or three days for some

weeks. Any exposure to chill should be guarded against, and exercise should be limited in amount for some time after all apparent symptoms have subsided. When nodules are present, danger to the heart is imminent. The child should be kept in bed, and the heart should be examined, the morning and evening temperature taken, and the rate of pulse and respiration noted every day till these ominous signals have disappeared. Where possible, children who have once suffered from cardiac inflammation, more especially where this was associated with nodules, should winter in some warm, dry climate. In conclusion, I should like to acknowledge my indebtedness to Dr. Cheadle's most valuable lectures on "The Rheumatic State in Children," delivered before the Harveian Society in 1889, in which the distinctive features of rheumatism in children were first pointed out. (From Dr. John F. H. Broadbent's article in the *Edinburgh Medical Journal*, May, 1898.)

HEART, WOUND OF.—Recovery.

(From Dr. J. Rudis-Jicinsky's paper). The case occurred in a man, aged 26, whose chest was perforated with a knife, and the pleura, lungs, and heart muscle cut, the latter near the apex, besides a wound to the temporal region of the head, and the patient made a good recovery, notwithstanding the grave injury which he had received. Both wounds were cleaned under all possible antiseptic precautions, hemorrhage was checked, the patient was dressed and laid on a cot, and absolute rest was enforced. The case suggests many points of interest. One of the first that presents itself has reference to the course of the knife to the heart muscle, the situation of the wound, and the symptoms arising therefrom. It seems clear that the puncture of the heart itself did not give much bleeding. Ashhurst says that syncope is often observed in cases of heart wound, occurring not infrequently at the moment of injury. Pain, which was present, is, according to Fischer, due to the pericardial lesion; and the same author states that wounds of the heart are usually, though not necessarily, fatal; 401 cases collected by him afforded as many as 50 recoveries, the diagnosis in 33 of the latter being eventually confirmed by means of autopsy. Cases have been recorded in which patients have survived heart wounds for considerable periods, even though with foreign bodies lodged in the substance of the heart. The main point of interest in connection with this case, therefore, is the fact that the injury was not fatal. Under such appropriate strictly antiseptic treatment as we had at our disposition and could offer in the country, all alarming symptoms gradually disappeared and the patient slowly progressed, and after a long illness made an excellent recovery. (*New York Medical Journal*, April 23, 1898.)

PERICARDIAL EFFUSION.—Latent and Ephemeral.

Dr. Ewart said that the limited and transient pericardial effusions forming the subject of his paper had been observed by him with growing frequency since his attention had been directed to them. Three cases reported in *The Lancet* for November 21, 1896, illustrated the common causation of the effusion from rheumatism, valvular disease, and albuminuria. The recognition of effusion was difficult only when the method for its detection was imperfectly applied, and it was most often entirely overlooked because its presence was not suspected. The obvious dulness to which it gives rise anteriorly seems to be frequently mistaken for that of cardiac dilatation, from which it differs in its outline, as well as in giving rise to a characteristic patch of dulness in the back (the dorsal dull patch of pericardial effusion). Tracings taken day by day in the cases brought forward demonstrated both the rapid variations in the size of the effusion and its early re-absorption—sometimes within a day or two. In two of the cases there was a relapse of the effusion, and in one of them post-mortem evidence of some recent pericarditis was found soon after the clinical observations had been made. The conclusions arrived at related:—(1) To the hitherto apparently unsuspected frequency of these minor effusions; (2) to their short duration; (3) to their moderate size; (4) to the absence of the painful symptoms of pericarditis and of the severe pressure symptoms of large effusions; (5) to the obscurity of their pathological etiology; (6) to the desirability of their being recognised, since by that means the earlier stages of more dangerous effusions, from which they are undistinguishable by mere percussion, would then no longer so often escape detection, as seems to have been the case in the past. (*Medical Press and Circular*, February 16, 1898.)

PERICARDITIS, SUPPURATIVE.—Surgical Treatment of.

Dr. John B. Roberts (*American Journal of Medical Sciences*, December, 1897) deprecates tapping as both ineffectual and dangerous. In one case as many as ten aspirations had to be performed in thirty-four days; then death occurred. The heart has often been punctured, sometimes from a mistaken diagnosis, sometimes because it was adherent to the anterior wall of the pericardium; fluid confined behind the heart by adhesions cannot be evacuated. The prognosis after incision is good provided it is done early and there are no serious complications. An exploratory aspiration to determine the presence of pus should first be performed. The pleura is in danger of injury from puncture in the usual situations. From anatomical

researches, following Delorme and Mignon, Dr. Roberts recommends that the needle should be thrust upwards and a little inwards in the upper part of the left xiphoid fossa. If pus is found he recommends resection of the thorax in the following manner: two vertical excisions are made, one about a centimetre to the left of the middle line of the sternum and the other four or five centimetres external to this. The fourth and fifth costal cartilages are exposed at their sternal junctions and divided. Care must be taken not to puncture the pleura. The soft tissues in the fourth and fifth spaces and along the upper border of the sternum are cut through. The trap-door so formed is raised and the mediastinal tissues are separated. The triangularis sterni and internal mammary vessels are then exposed. The former is divided close to the sternum within the line of the latter. With the finger or blunt instrument the fascia and muscular fibres are separated and the vessels and pleura pushed outwards. The white surface of the pericardium comes into view and is incised. If irrigation is employed two tubes should be used, one for exit. The drainage-tubes can pass through the fifth space or through a hole in the fourth. (The Lancet, January 8, 1898.)

THEOBROMINE.

Dr. E. Baronaki (*Medical Chronicle*, September, 1897) considers theobromine to be the remedy of choice in the asystole of old people. It brings on rapidly a diuresis amounting to four, five, or six litres, and wards off the symptoms of uræmia. This marked diuresis is especially noticed in the chronic asystole so frequently observed in old people accompanying œdema, anasarca, and ascites. In the pulmonary or hepatic forms theobromine does not seem to have the same diuretic action. Diuresis may come on the very evening of the administration of the drug, but most frequently the following day. It leads to a marked improvement, the signs of uræmia disappear rapidly, the respiration becomes better, and the patient is out of danger for some time. The most marked diuresis is obtained when the use of theobromine has been preceded by digitalis. Association of theobromine with caffeine or with salicylate of sodium does not give better results than theobromine alone. After venesection or scarification theobromine seems to recover its diuretic properties. The author believes in large doses. With 2 grammes (30 grains) no appreciable diuretic effect is obtained, 3 grammes (45 grains) at least being necessary. Four or 5-gramme doses do not increase the diuretic effect. It is not advisable to continue the great diuresis for any long time. When the dangerous symptoms have disappeared the theobromine should be discontinued and iodides given. Dr. Baronaki has noticed

as inconveniences of the prolonged use of theobromine, vomiting, nausea, vertigo, and phenomena of excitement. He has also observed an increase of the quantity of albumen in the urine. (Therapeutic Gazette, December 15, 1897.)

AFFECTIONS OF THE RESPIRATORY SYSTEM.

BRONCHI, FOREIGN BODIES IN THE.

Treatment is expectant or operative; if no urgent symptoms occur, there may be doubt as to the presence of the foreign body in the bronchus. It is rarely the case in either of the first three stages that the friends of the patient will consent to a tracheotomy, unless unequivocal signs of the presence of the foreign body can be demonstrated, or unless there is evidence of bronchial obstruction. In the stage of septic infection, not much persuasion on the part of the doctor is required to induce the permission for an operation, and the question now arises as to whether the operation should be conducted through the trachea or through the chest wall. Probably a good rule would be to try first to remove the body *viâ* the trachea, but at the same time, if there be obstruction of the bronchus, or a cavity in the lung, or an empyema, there is a strong temptation to explore through the chest wall. Godlee in one case reached a cavity in the lung, and opened it; a sinus persisted, and through it the peg of a top dropped out some two years later. In the earlier stages, it has been suggested that direct bronchotomy should be performed, but the difficulty of the operation is such as to practically prohibit it; tracheotomy is the only resource, and should be done early, before destructive changes in the lung occur, and inversion should not be practised with a mobile body, unless tracheotomy can be immediately performed if urgent necessity should arise. (From Dr. A. A. Lenden's paper in the *Intercolonial Medical Journal of Australasia*, March 20, 1898.)

BRONCHITIS, ACUTE.—Treatment of.

In acute bronchitis of adults a combination of acetate ammonia, spirit of nitrous ether, and ipecacuanha or antimony is commonly used, and no better combination can be employed. But I hold that an error is often made with regard to the dose of two of these substances. The quantity of acetate of ammonia ordered is usually too small. I commonly find an ounce or an ounce and a half of solution of ammonium acetate ordered in an eight ounce mixture, an ounce of which is to be given every four hours. Now, I would not say that doses of a drachm to

a drachm and a half of solution of acetate of ammonia have no effect, but I am quite sure they are too small to be of value where the definite action of the drug is required. In the Pharmacopœia the dose of liquor ammonii acetatis is given as two to six drachms, and in this the Pharmacopœia is right. I have not found less than two drachms act on the skin or give the general relief which often results from a larger dose in the early stage of acute bronchitis. I believe it is better to begin with doses of three drachms, and to increase the amount to six drachms if the skin does not act freely. Marked relief to the breathing often, though by no means always, accompanies the diaphoresis. (From Dr. Leech's paper in the Practitioner, May, 1898.)

COUGH, REFLEX.

A list of the principal reflex causes may be given as follows:— In the ear, impacted cerumen, foreign bodies, or cholesteatoma. In the nose, hypertrophies, septal spurs, polypi, foreign bodies, and the crusts of atropic rhinitis. In the naso-pharynx, adenoids, polypi, or other growths. In the pharynx, elongated uvula, granular pharyngitis, hypertrophy, and other diseases of the tonsils. In the glosso-epiglottic spaces, hypertrophied lingual tonsils, varicose veins, or a too greatly curved epiglottis. In the larynx, presence of mucus or pus, congestions and thickenings of the mucous membranes, papilloma, or other growth. In other parts of the body, pressure or irritation of the vagi are most frequent cause. (From Dr. J. F. Barnhill's paper in the Laryngoscope, January, 1898.)

ERRHINES AS EXPECTORANTS.

(By Sir Dyce Duckworth.) The benefit sometimes derivable from sneezing in cases of suffocative bronchitis is not sufficiently appreciated in medical practice. When the bronchia are encumbered with abundant secretion from their surfaces, and when, owing to associated pulmonary emphysema, or defective muscular expiratory power generally, cough is little effectual in promoting adequate expectoration, sneezing is often a powerful aid to the latter process. This may be readily induced by ordinary snuff. It should be fresh and as pungent as possible. Failing this, recourse may be had to a snuff composed of one part of veratria and twenty parts of starch, lycopodium, or liquorice powder. This is usually unailing to provoke effective sneezing and cough with abundant expectoration. I have found marked relief thus afforded, and the powder may be used two or three times daily. Other methods of treatment must be applied, especially the employment internally of ammonium carbonate, senega, and nux vomica, all of which come under the class of

what the late Professor Easton, of Glasgow, termed pneumo-musculo-excitants. Terebene is also of good service in such cases. But we have few better agents for rousing the respiratory centre in the medulla oblongata, reflexly through the nasal branches of the fifth nerve, than errhines, and their value has, I think, been too much forgotten in recent practice. (*The Practitioner*, March, 1898.)

LARYNX, MULTIPLE PAPILLOMATA OF.

Dr. T. C. Railton reports two interesting cases of this laryngeal affection (*British Medical Journal*, No. 1938), in which a complete cure was effected by tracheotomy alone. In one case, a girl of three years, the tracheotomy was done in February 23, 1894, on account of serious attacks of dyspnœa. A week after operation the usual silver tube was removed and a soft rubber tube employed. This tube, removed and replaced three times a week, was worn continuously for three years and nine months. The tube was then permanently removed and tracheal wound allowed to heal. The larynx was found to be in a perfectly healthy condition. In the second case a similar course was pursued, and the larynx found perfectly healthy. After the tube had been worn two years there was not, after a lapse of eighteen months, the slightest indication of return of the disease. In conclusion, the writer says:—"It was determined at the beginning of the treatment of these cases to limit it to tracheotomy, the more radical operations of thyrotomy or endo-laryngeal extirpation having proved so very unsatisfactory in children, even at the hands of the most skilful operators. It would appear that the spontaneous atrophy of the papillomata depends upon the removal of all causes of irritation in breathing and more particularly in coughing. I do not attach much importance to the effect of the arsenic administered in the first case; in the second none was given. (*The Laryngoscope*, April, 1898.)

LUNG, GANGRENE OF.—Treatment of.

These operative results (one recovery in four cases) are not so encouraging as some writers lead us to expect. For instance, Lop had in twelve cases of pneumotomy seven recoveries: three were relieved and two died. In thirty-one cases which he collected, seventeen were cured. The indications which this author gives for operations in gangrene are:—(1) Two weeks of medical treatment, including guaiacol injections, &c., without relief. (2) Where auscultation shows a definite cavity. (3) Where the gangrenous focus shows evidence of being covered by pleural adhesions, and its seat is such as to be accessible. Now it is just the difficulty of demonstrating that the pleura is adherent around the point of the intended opening which constitutes the

source of doubt and danger. Krause advises, in case the pleura is found not to be adherent, a double operation:—(1) Resection of the necessary ribs and the establishment of adhesions either by stitching the pleura, packing with iodoform gauze, the use of the Paquelin cautery or other means; (2) after waiting five or more days till the pleural cavity is shut off, the gangrenous cavity is opened and drained. Unfortunately, before five days there is quite a chance that the patient will be for ever free of any need of further operation. The comparative safety with which exploratory punctures may be made in the various cavities of the body may lead us to forget what may happen if the needle is plunged into a gangrenous or suppurating cavity of the lung, the pleura being sound and not adherent. Is not the withdrawal of the needle, charged with putrid matter, likely to inoculate the pleural cavity as it passes through it, and so produce that much to be dreaded complication, a general fœtid empyema? (From Dr. C. F. Withington's paper in the *Boston Medical and Surgical Journal*, March 10, 1898.)

OXYGEN INHALATION.

I find some object to its use on the ground that it is not a really curative agent. This is true, but the inference that it is not worth giving is, I believe, fallacious. It does often remove cyanosis, and a continuous condition of cyanosis must be an evil. My feeling is that the inhalation of oxygen is generally commenced too late. I believe its early use prevents the advent of that pronounced cyanosis we so often see, and which, when it is once established, may be only slightly benefited by oxygen. It thus gives patients an additional chance of life, and, furthermore, in most cases it gives marked relief. If we objected to give drugs in ailments unless they had a direct curative influence, I think our use of the *Pharmacopœia* remedies would be very limited. (From Dr. Leech's paper in the *Practitioner*, May, 1898.)

PHTHISIS.—Guaiacol in.

Of late, at the suggestion of Dr. Squire, we have pushed the drug in all stages of the disease to see how much patients could take without ill-effect and what good results, if any, would follow. In many cases after starting the treatment one has been obliged to cease the administration of the drug as other symptoms or complications (not connected with the guaiacol) have arisen necessitating its withdrawal. We have, nevertheless, 40 patients who have taken the drug:—Six cases took 60 minims, two cases took 50 minims, four cases took 40 minims, six cases took 30 minims, ten cases took 20 minims, six cases took 15 minims, and six cases took 10 minims three times a day

after food. Some of these are still in hospital and are gradually increasing the dose. The drug was first administered in capsules, each containing 5 minims, but later was given in an emulsion with glycerine and tincture of orange peel, many patients taking it partly in one form and partly the other. A good few found difficulty in swallowing many capsules; others, again, preferred them much to the acrid liquid; in either case they would drink about half a cupful of milk with the guaiacol, which seemed to greatly add to its being borne well. The dose of 5 minims was at first usually increased by 5 minims every third day, and later more rapidly, till 60 minims were reached. Only one patient felt any ill-effects; he, when taking 20 minims three times a day, complained of much stomachic and abdominal pain, with a sinking sensation in the epigastrium, passing a small quantity of blood by the bowel. The guaiacol was stopped, but resumed later with 10-minim doses without ill-effect. Twenty-six were cavitation cases, and in these the diminution in the amount of expectoration was very marked, beginning to diminish early in the administration of the drug. Some patients whose expectoration was very profuse on admission would later only cough up little "pellets" of sputum first thing in the morning and none after. There has been no marked effect on the temperature observed when guaiacol has superseded other drugs, but in those taking it continually a steady lowering of the evening temperature has been commonly noticed. Thirty-five of the cases put on weight, most of them well, one putting on 19 lb. in twelve weeks. There was not, as far as I could make out, any definite relation between the increase in weight and the proportional increase of the doses. The cough was in no special way affected that I could see, but night sweats in nearly all cases diminished and then disappeared in a very short space of time. Twelve cases had laryngeal phthisis as well, but as these cases all had local treatment also one cannot say whether the guaiacol had any special effect or no. The patients complained a good deal either of the emulsion burning their throat or of their difficulty in swallowing the capsules, but by dint of perseverance, combined with faith in the drug, they managed very well after a time. The effect of the drug, if any, on the number, &c., of the bacilli in the sputum is now being observed. (From Mr. C. Stanford Read's report in Dr. J. E. Squire's paper, *Lancet*, April 9, 1898.)

PHTHISIS.—Ocean Voyages in.

(a) *Contra-indications.*—Advanced cases of any kind are contra-indicated, as well as the severe cases complicated by laryngeal or intestinal tuberculosis, or by advanced arterio-sclerosis or

cardiac disease. Acute cases with fever at any stage, even those with little physical signs, are to be excepted, as long as the process remains acute. Feeble patients with little resistant power. All those who would naturally bear a sea voyage badly and would necessarily suffer from discomfort. Difficulties in regard to fresh food, variety of food, and milk, should always be borne in mind. (b) *Suitable Cases.*—(1) For prophylaxis. In persons debilitated by overwork or town life, or recovering from acute disease, a sea voyage often does wonders. In such persons, if predisposed to phthisis and belonging to consumptive families, this course of treatment may be supposed to have often warded off the onset of tubercle. (2) In persons otherwise suitable for a long voyage, in whom slight signs of pulmonary tuberculosis (practically without fever) have become apparent after specially debilitating circumstances, the ocean air may be in some cases, if not recommended, at least permitted as the primary method of treatment. (3) To improve the general health in quiescent or healed cases of pulmonary tuberculosis. The above-mentioned three classes of cases are probably those most likely to be benefited by a sea voyage. Doubtless, however, there are other cases where a long sea voyage may do good, even though another method of treatment may be somewhat more likely to lead to cure. Such cases include several of the ordinary cases of chronic phthisis, without fever, and where the physical signs are not far advanced, occurring in men who have already had some experience of an ocean voyage, and are now desirous of trying its effects for their pulmonary complaint. (From Dr. Parkes Weber's paper in the *Practitioner*, June, 1898.)

PLEURISY, ACUTE, A FORM OF TUBERCULOSIS.

That cases of acute pleurisy are often tuberculous has been known for some time; that they are almost invariably so seems now to be proved. Attention was first drawn to the fact by continental writers. In 1890 Dr. Alfred G. Barrs read a paper before the Leeds Medico-Chirurgical Society. As the result of carefully compiled statistics he confirmed the conclusion of Mayer, that "the majority of cases of simple idiopathic pleurisy or pleurisy from exposure to cold conceal or reveal a tuberculous process. In 1893, however, Dr. William Osler, in his Shattuck lecture, concluded that two-thirds of the cases were non-tuberculous. In 1895, Eichhorst published the results of injecting the fluid obtained from cases of serous pleurisy into the peritoneal cavity of guinea-pigs. Two-thirds of the animals developed tuberculosis. The *Boston Medical and Surgical Journal* of August 5, 1897, contains an important paper by Dr. George G. Sears. On injecting tuberculin in ten cases of acute pleurisy, he obtained a reaction—rise of temperature—in nine.

He limited the reaction to this by using a small dose—one milligram, increased if necessary. His results are nearly identical with those cited by Netter, who obtained a reaction in thirteen out of fifteen cases. The question is of practical importance. Though the prognosis as regards the attack is good, there remains the tendency to develop other and more serious forms of tuberculosis.—*The Lancet.* (Medical Record, December 18, 1897.)

PLEURISY, PAIN IN.

In most of these cases, where the pain is great, you will find that putting a few leeches on the surface tends to ease the pain, but not invariably. One of the cases I have alluded to was not relieved, but in many the pain was rapidly relieved by the application of half a dozen leeches. Half a dozen, more or less, is an average number, but if the pain is severe, a dozen will lessen it, one might say, in almost a miraculous way. I remember seeing one private case, in which every breath that the patient took terminated in a shriek. The pain was so excessive that each time that the breath was taken it was not passed out again as ordinary expiration, but simply came out as a shriek, and the scene was a most painful one to behold. After the application of twelve leeches the pain disappeared completely. I do not know exactly how leeches do act, whether it is simply by abstraction of blood or not, but that they do relieve there can be no doubt. (From Dr. Lauder Brunton's paper in the *Edinburgh Medical Journal*, April, 1898.)

PNEUMONIA.—Bacteriology of Lobar and Lobular.

The following are Dr. R. M. Pearce's conclusions:—(1) The pneumococcus is almost universally present in true lobar pneumonia and its complications. Its presence in pure culture in the majority of cases indicates its etiological relation. General infection, in fatal cases, is quite frequent, and therefore of considerable importance, both from a bacteriological and from a clinical point of view. (2) To sum up, the streptococcus pyogenes occurred alone in 16 cases of broncho-pneumonia; pneumococcus alone in 12 cases; staphylococcus pyogenes aureus alone in six cases; staphylococcus pyogenes albus alone in one case; colon bacillus, in five cases; streptococcus pyogenes, staphylococcus pyogenes aureus and pneumococcus, in two cases; streptococcus pyogenes and staphylococcus pyogenes aureus, one case; streptococcus pyogenes and pneumococcus, two cases; pneumococcus and staphylococcus pyogenes aureus, one case. (*Boston Medical and Surgical Journal*, December 2, 1897.)

PNEUMONIA,—Prophylaxis and Treatment of.

Dr. Beverley Robinson (*New York Medical Record*, February 19, 1898, p. 253) considers that pneumonia, or lung fever, should be classed among the infectious diseases. Some disinfectant, of which creosote is the best, vaporised by boiling water, may be advantageously generated in the room, both for the possible good to the patient and to prevent the spread of disease. The author claims that a sufficiently large quantity of creosote may be given by inhalation to justify its exhibition from every rational standpoint of treatment, and recommends strongly the employment of creosote inhalations, both for prophylaxis and treatment. From his own observations he would regard the risk of contagion as relatively small, but in view of the proofs afforded by the observations of others the possibility of this occurrence cannot be disregarded. In addition to the use of antiseptic inhalations, it is well also to disinfect the sputa, and, in fact, to take similar precautions to those recommended in pulmonary tuberculosis. As pneumococci may still remain in the mouth after the pneumonia is recovered from, and may possibly occasion a recurrence of the disease in the individual, antiseptic gargles should be used for a time. For this the mouth may be rinsed frequently with solutions of boric acid (4 to 1,000), or of thymol (1 to 1,000). (From abstract in *Treatment*, April 28, 1898.)

PNEUMONIA TREATED WITH DE RENZI'S SERUM.

In the year 1894 to 1895 two patients suffering from pneumonia were admitted to Professor de Renzi's clinic, and were treated with the serum with excellent results. In the year 1895 to 1896 14 patients were treated with the serum, and only two died. In the year 1896 to 1897 this treatment was again used in 14 patients, and only one died. This year two patients have been subjected to the serum treatment and cured. In all there were 32 patients treated with this serum, 29 of whom were cured, and only three died. Regarding the latter, the autopsy made by Professor Schrön revealed the fact that these patients had other diseases of a fatal nature, and they could probably have been saved if they had been brought to the clinic at an earlier date. This serum treatment increases the strength and rapidly diminishes the fever to such an extent that, in one case which came under Professor Rossoni's observation, there was no fever observed on the third day. Professor Maragliano experimented with de Renzi's anti-pneumonic serum upon five patients, and with successful results. He also wrote to me, in answer to a request for his opinion about de Renzi's serum, that the results of the experiments showed the real influence of the serum on the

course of the disease. In view of these results, I believe that de Renzi's serum may be considered as a remedy of undoubted efficacy, and that it is manifestly indicated in all diseases caused by Fränkel's bacillus—namely, epidemic cerebro-spinal meningitis, pleurisy, pericarditis, peritonitis, the arthritis of pneumonia, &c. (From Dr. Fanoni's paper in the *New York Medical Journal*, May 7, 1898.)

PNEUMONIA.—Treatment of.

De Renzi (*Gaz. degli Osped. e delle Clin.*, February 13, 1898) advises the frequent use of a mouth wash of sublimate solution (1 in 5,000) or ac. salicylic. (1 in 500), both as a prophylactic and as a germicide, killing the pneumococcus which is frequently found in the mouth. He dwells on the importance of fresh and pure air, and on the necessity of feeding, relying chiefly on milk and eggs, broths having certain disadvantages. As to drugs, the only one recognised by him is alcohol (ethylic), which he is in the habit of giving to all his cases. Since the introduction of the anti-pneumonic serum (prepared by Pane), he has used it with very gratifying results. During the last three years he has used the serum in 32 cases (and in the earlier years only the severest cases were selected; in the last year all the cases (14) were treated with serum), with a mortality of 9 per cent., whereas in the previous years, with the ordinary treatment in vogue, the mortality was 24 per cent. No bad results have followed injection, and in one case as much as 200 c.cm. was injected in the course of 24 hours. The most marked effect was the lowering of the temperature. Of the three fatal cases, two were admitted almost moribund, and the third had serious concomitant disease. (Epitome, *British Medical Journal*, April 9, 1898.)

PNEUMOTHORAX, RECURRENT.

Dr. Finny relates such a case, idiopathic in origin, without effusion, and ending in recovery. He deduces the following conclusions:—(1) That simple or idiopathic pneumothorax is a very rare disease of the lungs and pleura. (2) That a repetition of the disease in the same lung is of still greater rarity. (3) That in a very small number of cases the entrance of air into the pleura—to stretch it to its utmost limits—does occur without any effusion of fluid, and this even may happen a second time in the same lung. (4) That the absence of fluid renders the disease less fatal than when air and fluid are effused. (5) That the presence of air in the pleura may occur without any febrile or constitutional disturbance. (6) That in the face of such possibilities we should be cautious as to giving too grave a prognosis when evidences of a ruptured lung and pleura

are present, and particularly so when there is no previous disease. (7) That the tendency of such cases is towards spontaneous recovery, and, in the absence of urgent symptoms calling for relief, it is wiser not to employ surgical means to let off the effused air. (Dublin Journal of Medical Science, April, 1898.)

ROENTGEN RAYS IN THORACIC DISEASE.

Francis H. Williams, M.D., *The American Journal of the Medical Sciences*, December, 1897. Dr. Williams has examined upwards of 500 patients by means of the X rays, 400 of these being medical cases. This article, dealing with diseases of the thoracic organs, is especially interesting to students of internal medicine, and if all that Dr. Williams claims for this new method of examination can be realised, much greater accuracy of diagnosis in the very early stages of disease will be secured. The direct application of the X rays in examination, it would seem, supersedes the somewhat tedious and certainly expensive method of photography, the observer seeing the condition and describing it or sketching it on paper or upon the chest wall, from which it is afterwards transferred to paper. Quoting directly from the summary which Dr. Williams makes of his own observations, we find the following chief conclusions:— (1) The fluoroscope gives us better assurance that the lungs are in a healthy condition than other methods of physical examination, and in connection with auscultation and percussion, teaches us in disease to interpret better the sign found by the older methods. (2) The fluoroscope gives us earlier evidence of disease in some cases of tuberculosis, and more accurate information of its extent, than can be obtained by the usual physical examination. (3) The fluoroscope gives us more accurate information of the extent of the disease in pneumonia and of the duration of an abnormal condition of the lungs. (4) It enables us to outline the heart more accurately and completely than has hitherto been possible and to observe certain changes in it. (5) It gives us the means of making an earlier diagnosis of some cases of thoracic aneurism than any other method, and enables us in certain cases to exclude it where it has been suspected. (6) It enables us to ascertain the cause in some cases of dyspnoea that would otherwise be obscure. He further says the X-ray examination should be used in connection with other methods; the information derived from it in suitable cases is more definite and accurate than that obtained from auscultation and percussion. (Montreal Medical Journal, January, 1898.)

AFFECTIONS OF THE DIGESTIVE SYSTEM.

ABDOMINAL INCISIONS.

Woolsey (*Annals of Surgery*, January, 1898) in studying this subject emphasises the following conclusions as among those which may be drawn from the above considerations:—(1) That abdominal incisions, except those in or close to the median line, should be obliquely transverse in order to parallel the nerves (and thereby also the cleavage lines of the skin), so as to avoid partial paralysis of the muscles, weakness of the abdominal wall, and a tendency to hernia. (2) That inter-muscular or even trans-muscular incisions should be preferred to those in the linea alba or semilunaris, for in both the latter cases the cicatrix is less strong and more prone to hernia, and in the semilunar line the nerves are necessarily divided. (3) That in place of the median vertical incision near the inner margin of the rectus, the trap-door incision around this inner margin offers many important advantages. (*Therapeutic Gazette*, March 15, 1898.)

APPENDIX, THE DISEASED.

The development of the diseased appendix may be said to pass usually through these stages:—(1) A catarrhal inflammation of the lining mucous membrane. (2) Irregular narrowing of the calibre, with hypertrophy of the mucous and muscular coats. (3) Strictures. (4) Imprisoned food, desquamated epithelium, and pus, forming concretions. (5) Obstruction at the stricture, distension, perforation, abscess. This explanation will, I believe, be found to include the great majority of cases, but does not exclude appreciation of the rarer ones resulting from simple flexion of the organ, or those resulting from internal ulceration. (From Dr. Robert Abbe's paper in the *Medical Press and Circular*, November 17, 1897.)

CALCULI, INTRAHEPATIC.

Dr. H. D. Rolleston exhibited the specimen, which was obtained from a man, aged 38, who died with diabetes and pulmonary tuberculosis, and had been jaundiced. It appeared possible that the extension of duodenal catarrh to the pancreatic duct had set up chronic pancreatitis, and that this in its turn had set up diabetes. The fibrotic pancreas, with its dilated duct containing calculi, was also shown. Possibly the extension of catarrh to the intrahepatic ducts accounts for the calculi. The calculi were large, filled up the hepatic ducts, crumbled, and were composed of bile pigment and cholesterin. There were no calculi in the gall bladder, and the cystic duct was not dilated, so that the intrahepatic calculi had been formed *in situ*,

and had not been conveyed there from the gall bladder. Intrahepatic calculi of any size were rare, and the occurrence of cholelithiasis in diabetes was quite exceptional; in 220 cases of diabetes quoted by Brockbank from Windle there was one calculus, or 0·45 per cent. (*British Medical Journal*, January 8, 1898.)

CARCINOMA AND ULCER OF THE STOMACH.

The development of cancer in gastric ulcer is a well-recognised sequence of events, especially at the pylorus. Hayem (*La Presse Médicale*, August 4, 1897) met with a case in which the ulcer, though antecedent to the development of carcinoma as seen in the light of the autopsy, was entirely latent during life. Dieulafoy (*La Presse Médicale*, November 10, 1897) diagnosed a case during life from the hyperacidity, extreme severity of the pains, and vomiting in the early stages, and the later diminution in the amount of Hcl. There was very extensive ulceration, and a carcinoma composed of somewhat variously sized cells—as is usually the case when carcinoma supervenes on ulcer—had developed on one edge of it. A more complicated series of events occurred in a case recorded by Hemmeter and Ames (*Medical Record*, September 11, 1897) where carcinoma developed on an ulcer near the pylorus; subsequently phlegmonous gastritis was engrafted on to the old lesions, and perforation of the stomach and acute peritonitis resulted. The paper is full of careful detail, and contains a useful bibliography of *ulcus carcinomatosum* and phlegmonous gastritis. Carcinoma developing on a duodenal ulcer has also been observed by Letulle (*Gaz. des Hôp.*, December 9, 1897) in a man who had melæna and other abdominal symptoms in 1895, and who died under his care in August, 1897. An extensive ulcer in the first part of the duodenum was found, with colloid cancer developing near its centre. (Abstract in *Practitioner*, February, 1898.)

CHRONIC GASTRIC ULCER.

Dr. Nauwerk (*Gazette Médicale de Liège*, October 7, 1897) gives a description of the stomach of a woman, 60 years of age, who died from peritoneal perforation; there were present a number of ulcers, two of which had been the direct cause of death. Ulceration and gastritis had constituted a combined process; in this case one could speak of the condition as one of chronic ulcerous gastritis. The ulcer and erosion could not be separated, as there was between the two lesions only a difference in degree; both were phenomena of the same disease. Microscopical study enabled him to note that the mucous membrane of the stomach was affected by numerous necroses which had an approximate

depth of one millimetre. As to the origin of these necroses, they could be attributed neither to anæmia, blood infarction, nor bacteria. They seemed rather to have been made by corrosive process, aided by chronic inflammation of the mucous membrane. It is fitting to note that the patient in question was a very stout woman, who often eat voraciously of many indigestible dishes. She suffered with her stomach for a number of years, and often had eructations. In 1894, hæmatemesis occurred, and it was at that time that a diagnosis of ulcer of the stomach was made. The author thinks it ought to be remarked that the most of these cases diagnosticated as chronic catarrh of the stomach might be classed as chronic ulcerous gastritis. (Medical Record, January 22, 1898.)

CONSTIPATION IN CHILDREN.

The *Journal de Clinique et de Thérapeutique Infantiles* of May 19, 1898, quotes a paper by Dr. L. Furst on the "Treatment of Chronic Constipation in Children." The writer assigns as the causes of this condition defective peristalsis, insufficient secretion by the intestinal glands, in older children a sedentary habit with lack of physical exercise, and also in some others a feebleness in the action of the sympathetic dependent on excessive use of the brain. One important consequence, he maintains, is decomposition of the retained fæces, which in its turn he holds accountable for convulsive attacks, neurasthenia, insomnia, and other nerve disorders probably associated with absorption of the products of decomposition. Passing to treatment, he places much faith in massage of the abdomen, aided by small doses of a saline water repeated twice or three times daily. He recognises also the value of enemata, and advises their use three or four times a week, the solution used being in this case also a weak saline one. The employment of enemata presupposes, of course, an absence of inflammation in the bowel and an uninjured mucous surface. By such means, persevered in for some weeks or months, Dr. Furst maintains that the difficulties both as to secretion and peristaltic action can best be overcome. His views with regard to the value of careful massage, diet, exercise, and enemata will find general acceptance. His advocacy of the repeated use of salines is more open to question, since the ultimate effect of this process must be to deplete and thus to weaken the bowel in a greater or less degree. The substitution of mild cholagogues with such laxatives—senna, cascara, &c.—as influence intestinal secretion, and at the same time stimulate peristalsis, appears to us a preferable method. There is a stage in early childhood at which active exercise is not possible, and such measures as those just described are then most useful.

After that period, however, an active habit and a suitable diet will in the case of most children prove of greater value than the use of more artificial remedies. (A leaderette in *The Lancet*, June 4, 1898.)

DYSPEPSIA, LATENT.

M. Albert Robin, says the *Progrès médical* for March 19, is making a study of the different forms of dyspepsia and their treatment, and is interested in the relations which may exist between digestive troubles and cutaneous affections. Occasionally the digestive troubles presented by patients are latent, and the following case is cited by M. Robin as a good example of this :—The patient, a man 75 years old, was a mason and had always had good health. He entered the hospital to be treated for psoriasis. His general health was very good at the time, and he did not complain of digestive troubles. In order to test the man's condition, M. Robin prepared a meal for him, and the analysis of the gastric juice did not reveal hydrochloric acid, free or combined, organic acids, propeptones, or peptones, but only a rather large quantity of mucin. Repeated examinations gave the same result. M. Robin concluded from this that latent dyspepsia existed. The stomach had ceased to exercise its functions, and if the digestive functions did not appear to be suppressed, it was because the intestine had completely taken the place of the stomach. This replacement by the intestine is well established at the present time. If the stomach is not indispensable, it must not be concluded from that that latent dyspepsia is without inconveniences. If the intestine, under an influence of even slight importance, becomes disturbed in its functions, symptoms of dyspepsia appear and become predominant. Constipation is the intestinal symptom which most frequently reveals latent dyspepsia. This symptom is the first to be combated, and the following therapeutic measures should be employed :—(1) Purgatives, among which M. Robin prefers drastics in weak doses, as they are not followed in their action, like the saline purgatives, by an exaggeration of the constipation, which requires their continual employment. (2) Massage of the large intestine, which should be done methodically and gently. (3) Mineral waters, such as Châtelguyon, Brides, and Aulus, in France, and Kissengen and Carlsbad in other countries. In the case mentioned M. Robin ascertained further the presence of albumen in the urine. This dyspeptic albuminuria is very frequent; dyspeptic diabetes also exists. These symptoms, which are not well known, are not amenable to the ordinary treatment of albuminuria and diabetes. (*New York Medical Journal*, April 9, 1898.)

EXCRETA, DISINFECTION OF.

The following are Drs. C. A. Hill and J. H. Abram's conclusions:—(1) It is absolutely necessary to mix the fæces thoroughly with the disinfectant. (2) The mixture should stand at least half an hour. (3) Carbolic acid, crude carbolic acid, formol, creoline, chinosol, and corrosive sublimate in the strengths given in the short list are all effective, but chinosol seems the most convenient. (The *British Medical Journal*, April 16, 1898.)

GASTRORRHAPHY.

Mr. Moynihan read a paper on this subject before the Leeds Medico-Chirurgical Society, with notes of a case. The various methods adopted by Bircher of Aarau (the first performer of the operation, which had been forecasted by Ewald), Weir of New York, Brandt of Klausenberg, and Bennett of London were detailed. The method adopted in this case was a modification of the latter. The operation, which required but a brief period for its performance, was singularly easy, and reduced the bulk of the stomach to something very near its normal dimensions. A series of purse-string sutures were introduced in the anterior wall, extending from the greater to the lesser curvature. On drawing these tight a roll was produced in the interior of the stomach of about the thickness of one's finger, and there were bulgings at each end of the line of suture at the cardiac and pyloric ends. In these positions other sutures were introduced to round off the outline of the stomach. All the cases so far recorded, including the one now described, were attended with a very marked relief to the symptoms of gastric dilatation. (*British Medical Journal*, February 26, 1898.)

LIVER, CIRRHOSIS OF.

At the Society for Inneré Medezin, Hr. Klemperer showed preparations of this disease. He had seen the patient from whom the preparations came 10½ years before in Dr. Leyden's Klinik, and since that time had constantly kept him in view. At the first examination he was jaundiced and had an equably enlarged liver, but no ascites. He complained of pain in the region of the liver and great general weakness. He had had syphilis. Diagnosis, cirrhosis of liver, probably of syphilitic origin. The course of the disease was peculiar, for in place of the usual rapid development, there was a slow change of the hypertrophic cirrhosis into the atrophic form. Later on cicatrices could be felt in the liver. This slow course confirmed the diagnosis as to the origin of the disease, as the comparatively benign character of syphilitic cirrhosis of the liver was a clinically determined fact. Two years ago signs of tuberculous infection showed

themselves, and from this and not from his liver disease he died. The autopsy revealed an unexpected condition of things. There was no sign of syphilitic cirrhosis, no fatty degeneration, no white cicatricial bands, no gumma nodules. The case, therefore, was one of cirrhosis of the liver in a syphilitic person. The case was of further interest from its long duration, for a 10½ years' course was a rarity. The disease also might have existed long before he was first seen, and but for the tuberculous affection he would no doubt have lived much longer. He had seen another case that lived 11½ years.

Hr. Rothmann knew a case in its fourth year. Here it was interesting that a few years before the patient had been cured of an enormous ascites by a double pneumonia. The ascites had not returned, and the present condition of the patient was satisfactory. (Medical Press and Circular, February 16, 1898.)

Liver, Cirrhosis of.

In "A Study of Thirty-seven Fatal Cases of Cirrhosis of the Liver," in the *Boston Medical and Surgical Journal*, March 10, Morse shows that cirrhosis with enlargement, without change in size, and with diminution in size, are equally frequent, and that the size of the liver is increased in a third of the cases. The male sex is more frequently affected. Cirrhosis with enlargement is more common in younger people, and cirrhosis with atrophy in old. The average duration of symptoms is longer in the atrophic cases. The duration of symptoms, however, varies within wide limits in all varieties. Hemorrhage is a not infrequent cause of death in all forms, and a fatal hemorrhage may be the first symptom even in the hypertrophic form. An alcoholic history was obtained in every case in which the subject was investigated. A history of previous malaria, syphilis, or gall-stones was occasionally obtained, but in none did it seem of etiologic importance. (Journal American Medical Association, April 23, 1898.)

LIVER, RUPTURE OF.

A case of rupture of the liver successfully treated by abdominal section is reported by Martin (*Birmingham Medical Review*, May 19, 1898.) The patient, a healthy young coal-heaver, 19 years of age, was caught between two sets of trucks and received a severe "rolling crush." He recovered from the initial shock, and the only persistent symptom was severe pain in the right side of the chest. On the following day there ensued rapid rise of pulse and temperature, with distension of the abdomen and dulness in the flanks and "abdominal facies." No vomiting or hæmaturia. Immediate abdominal section,

performed in a miner's cottage by the light of a paraffin lamp, disclosed a large amount of fluid and clotted blood in the abdomen, and a rupture on the under surface of the right lobe, two inches deep, and extending upward from the transverse fissure, as far upward as the surgeon could reach. A detached fragment of liver tissue was washed out of the abdomen. Gauze packing was deemed impracticable owing to the situation of the tear, and irrigation with hot water, followed by drainage, was trusted in to control the hemorrhage. The whole abdomen was thoroughly washed out, and a small suprapubic incision made to drain the pelvis. Drainage was proved by two glass tubes, one for the pelvis, and the other for the sub-hepatic space. Convalescence was interrupted by pneumonia, but was finally complete. (Boston Medical and Surgical Journal, April 21, 1898.)

NEOPLASMS.—Surgery of the Stomach for Malignant.

C. A. Ewald reports a mortality of 54 to 69 per cent. in sixty-eight operations, although the operative result was faultless in all but three. He considers gastrostomy a kind of euthanasia, but notwithstanding it must be performed for humane, if for no other reasons. He adds, in conclusion, that the prognosis is dubious in every case; it is impossible for the surgeon to know the outcome beforehand, even in the most apparently favourable cases; still surgical intervention should be proposed in all cases that indicate it, and the operation should follow with the least possible delay. Lactic acid is no longer considered a specific symptom of gastric carcinoma, as the palpable neoplasm usually precedes it.—*Cbl. f. Chir.*, January 22. (Journal of American Medical Association, March 12, 1898.)

PANCREAS, GLYCOSURIA IN PRIMARY CANCER OF.

Bard and Pic, who have made a study of glycosuria in connection with cancer of the pancreas, have come to the following conclusions in regard to this affection:—(1) Glycosuria, in these cases, presents itself under two conditions. Sometimes there is an abundant glycosuria accompanied by the symptoms of diabetes; sometimes there is a slight glycosuria with or without symptoms of diabetes. (2) Diabetes is independent of cancer of the pancreas, but it may in some measure assist in producing the former disease, and, conversely, the development of cancer may reduce or even cause diabetic phenomena to disappear. (3) Slight glycosuria is due to sclerosis of the pancreas, produced by cancerous obstruction of the canal of Wirsung. It is only found in a few cases. (4) Secondary sclerosis of the pancreas

increases step by step with that of the liver. The parallelism may be clinically useful in the diagnosis of primary cancer of the pancreas. (Medical News, April 2, 1898.)

PANCREATITIS, ACUTE.

Acute pancreatitis is not a very common disease, and sudden deaths occurring from this cause always have a pathological interest. The *Hong-Kong Weekly Press*, of March 26, contains an account of an inquest held upon the body of Alfred Feltham, the wardmaster of the Government Civil Hospital, who was found dead in his quarters at the hospital on March 17. Dr. Atkinson, the principal medical officer, in his evidence, said that he was summoned in the afternoon to see Mr. Feltham. He found him lying dead on the sofa. At the post-mortem examination the cause of death appeared uncertain. Mr. Frank Browne, the Government analyst, deposed to examining the contents of the deceased's stomach: it contained 19 gr. of chloral and $\frac{1}{3}$ gr. of morphia. He had last seen deceased alive at mid-day on March 17. Dr. J. A. Lowson, who made the post-mortem examination, deposed to finding acute inflammation of the stomach and pancreas; in the head of the latter there was a large hemorrhagic extravasation. The condition found could not have been caused by either chloral or morphia, and in all probability the deceased could not have taken more than 30 gr. of chloral, for the absorbing powers of the stomach must have been considerably impaired. The cause of death was syncope in acute gastritis and pancreatitis, possibly accelerated by a medicinal dose of chloral. (From a leaderette in *The Lancet*, April 30, 1898.)

PYLORUS, STENOSIS OF.

The diagnosis between malignant and benign stenosis of the pylorus does not, as a rule, present much difficulty. The latter disease generally depends upon the cicatrization of an ulcer, and consequently there is almost always a history of pain after food, with vomiting, hæmatemesis, or melæna. The patient, though thin and weak, does not exhibit the extreme anæmia which accompanies cancer. The stomach is always markedly dilated, and peristaltic movements are usually visible. It is rare for benign stenosis to be accompanied by a tumour, but on more than one occasion I have felt a sausage-shaped swelling in the region of the pylorus, which was subsequently proved to arise from hypertrophy of the wall of the stomach. In both diseases retention of food occurs, but the contents of the stomach in a case of cicatrization of the pylorus invariably contains an excess of free hydrochloric acid, while in cancer the mineral acid is absent and lactic acid abundant. Even in the absence of

a definite history, a dilated and hypertrophied stomach, which contains an excess of free hydrochloric acid, is extremely unlikely to be the seat of a malignant growth. (From Dr. Soltan Fenwick's paper on the Early Diagnosis of Cancer of the Stomach, Edinburgh Medical Journal, April, 1898.)

SACCHARINE AS AN INTESTINAL ANTISEPTIC.

After a review of the work hitherto done in search of intestinal antiseptics, Dr. Descheemaeker (*Echo médical du Nord*, April 10) records a series of experiments upon rabbits, and subsequently upon the human subject, both in health and disease, to ascertain if a rapid diminution of intestinal ferments could be obtained by the daily employment of saccharine. The saccharine used was Monnet's No. 3, and is a saccharinate of sodium, containing, however, 90 per cent. of pure saccharine. It was given in doses of from 15 to 30 grains once daily, about two hours before the principal meal. The author concludes that his experiments recorded show that the saccharine used by him must take rank among the best intestinal antiseptics. The results, both on rabbits and on man, are constant. In all the experiments the ordinary germs of the intestine, and especially the *Bacterium coli commune*, were markedly decreased in numbers. The ingestion of the remedy was well borne by the sick, and the daily analysis of their urine never displayed a trace of albumen or any other abnormal product, while the urea remained constant throughout the experiment. (New York Medical Journal, May 14, 1898.)

SECTION, ABDONIMAL, AS A MEDICAL MEASURE.

Mr. Treves thus concludes:—I cannot avoid one word on the subject of this self-same exploratory incision. That this simple procedure has been of enormous value no one will doubt; that it has been the means of saving many a life has been amply demonstrated; that it has enabled a correct diagnosis to be made and a logical treatment to be carried out in hundreds of obscure cases needs not to be insisted on; but there must arise in the minds of many the question whether the exploratory incision, infinite as its value may be, is an entirely unmixed blessing. I notice that there are indications which tend to allow this ready measure to replace the admirable labour of clinical observation. The incision is so simple, the collecting and arranging and judging of clinical evidence is so difficult and tedious. With a scalpel in the hand—the patient—searching examination of the abdomen as practised in older days is no longer needed, and it is a question whether the education of those who wish to become acute clinical observers has not suffered a little thereby. (British Medical Journal, March 5, 1898.)

SPLEEN, RUPTURE OF.

Mr. Ballance refers to cases successfully treated by splenectomy, one under Riegner, one under Pitts, and three under himself. He thus concludes his article:—(a) The question arises: Must the spleen in all cases be excised? In my judgment any other plan is, even if feasible, dangerous. A patient with a belly full of blood is in desperate straits, the immediate danger to life is great, the operation must be completed in the shortest possible time, and no method (suture of rent, packing with gauze, &c.) less radical than excision can unequivocally be relied upon to arrest the hemorrhage. The rhythmic contractions and expansions of the spleen clearly add to the difficulties and dangers surrounding the arrestment of hemorrhage from it by any other plan than that of excision. (b) With regard to the treatment of the special and serious symptoms which arise when the spleen is removed in an adult, there is the choice of various remedies—fresh sheep's spleens lightly grilled, or extract of fresh spleen made with normal saline solution, red bone marrow mixed with anchovy paste to make it palatable, arsenic, and cod-liver oil. Whatever plan of treatment is adopted, the patient will probably remain in a critical state for fourteen days; but experience warrants the belief that, however desperate the condition may appear, compensation for the abolished function by the spleen will slowly but surely take place, and *pari passu* with the completion of the compensatory changes perfect health will be regained. (Practitioner, p. 347.)

TONGUE, SARCOMA OF THE.

Mr. Harry Littlewood recorded a case of the above somewhat rare condition. It occurred in a boy, aged 17, admitted into the Leeds Infirmary. The growth followed upon a scald of the tongue, which led to the formation of an ulcer; mercury and iodide of potassium were administered without avail. The much-enlarged organ was excised, and a few weeks later there were removed the enlarged lymphatic glands beneath the lower jaw, which had been left owing to the shock occasioned by the removal of the tongue itself. The growth occupied the middle two-fourths of the organ, and was found to be a round-celled sarcoma. No recurrence took place in the stump, but a growth appeared later in the left tonsil, and the adjoining lymphatic glands. Mr. Targett had in the *Guy's Hospital Reports* collected eleven instances of sarcoma of the tongue, and others had since been placed on record. By English writers the terms "round-celled sarcoma" and "lymphosarcoma" appeared to be used synonymously. (British Medical Journal, February 19, 1898.)

TYPHOID FEVER.—Appendicitis and Perforation in.

Dr. John B. Deaver strongly urges the importance of operative treatment in this condition. Aseptic surgery has enabled the surgeon to meet successfully many conditions heretofore regarded insurmountable, and therefore Dr. Deaver urges his medical friends to divide with the surgeon the responsibility of these cases. Fortunately, appendicitis occurring as a complication of typhoid fever is not common. Appendicitis occurring in the presence of typhoid fever does not produce symptoms unlike those seen in the disease when it is present as an independent affection. As is usual, a history of a previous attack or attacks can be elicited. The sudden onset of pain referred to the epigastrium or umbilical region, nausea followed by vomiting, which ceases, as a rule, when the pain becomes localised in the right iliac fossa, the circumscribed tenderness which corresponds to the site of the appendix, and the circumscribed rigidity of the immediately overlying belly-walls will in the greater number of cases suffice to warrant the diagnosis of appendicitis. When appendicitis occurs in connection with typhoid fever the diagnosis cannot always be clear, because of the likelihood of perforation in the latter affection. Experience also teaches that typhoid fever is the cause of chronic appendicitis in a small percentage of cases. [Four cases are then reported. Two of these died, both having refused operation. A perforation was found at the necropsy in one case, but no examination after death was made in the second. The other two cases are somewhat difficult to read. In one patient a diseased appendix was removed apparently in the early days of typhoid fever; at any rate the patient afterwards passed through an attack of typhoid fever. In the second case the symptoms dated from 10 days. "Operation revealed a belly full of pus." The appendix was intensely congested, and was removed. The perforation was not located, and therefore not stitched up. Thorough irrigation and drainage were adopted. The patient ultimately recovered. Widal's test was present. The cases are well worth careful and critical reading.—E.F.T.] (*American Journal of Medical Science*, 1898, p. 189.)

ULCER, GASTRIC.—Treatment of, by Large Doses of Bismuth.

Professor Dreschfeld made a communication on this subject to the Manchester Therapeutical Society. He mentioned the experience of Fleiner, who obtained good results by the injection of 20 or 30 grams (300 to 450 grains) of bismuth in suspension in water into the stomach by means of a tube after previous lavage of the stomach, and referred to the experiments of Mattheys on the action of bismuth in hastening the cure of

experimentally-produced ulcers in the stomachs of dogs. Dr. Dreschfeld pointed out the inconveniences and dangers of using the stomach tube in cases of gastric ulcer, and stated that he had secured excellent results by giving large doses of bismuth by the mouth in cases where ordinary doses had not proved successful. Doses of 30 to 40 or even 50 grains of bismuth subnitrate were given three times a day suspended in water. Under these, pain was rapidly relieved, vomiting ceased, digestion improved, allowing light nitrogenous food, such as fish or fowl, to be given, and the ulcer quickly healed. He has not seen any bad effects other than a little pain and diarrhoea—never constipation. He has chiefly used it in chronic cases, but in some acute cases, after recent hæmatemesis, it has proved successful. In acid dyspepsia it rapidly relieved the symptoms. In neurasthenic conditions, with symptoms resembling those of gastric ulcer, it has also been of great service. Two cases which were not relieved by large doses of bismuth given by the mouth were cured by Fleiner's method of washing out the stomach and injecting the bismuth through a tube. (*Medical Chronicle*, February, 1898.)

ULCER OF THE STOMACH.—Enterostomy for.

Dr. Hartmann (*Le Bulletin Médical*, January 2, 1898) says that, apropos of three cases of gastro-enterostomy reported by Dr. Tuffier for ulcer of the stomach when it was fully developed, he did not think that intervention was advantageous for the patient, as statistics showed eight deaths out of twelve cases, due to uncontrollable hæmatemesis; immediate death by hæmatemesis, in ordinary cases, was exceptional. The writer thinks that the curative influence of gastro enterostomy on ulcers in the process of evolution may be very advantageous, and he agrees with Defontaine that the operation is indicated in all cases of grave dyspepsias which rebel against medical treatment. In support of this opinion, Dr. Hartmann cites a case of a woman of 40 years, who had suffered with her stomach for seven years, and who, for the last three years, had epigastric and vertebral pain, accompanied by vomiting four or five hours after the ingestion of nourishment. During the last few months this woman could scarcely retain even a few drops of milk. Examination showed that there was neither hyperchlorhydria nor dilatation; the stomach simply emptied itself by the vomiting. This patient was cured by gastro-enterostomy, and gained eleven kilos in four months. (*Medical Record*, May 7, 1898.)

AFFECTIONS OF URINARY AND GENERATIVE SYSTEMS.

ALBUMINURIA, SCARLATINAL.

To make a short summary I would direct attention to the following:—(1) That albuminuria or hæmaturia, or both, occurred in 52·7 per cent. of the cases observed. (2) That the cases seemed to divide themselves naturally into three classes—(a) Those of pure albuminuria in which albumen only was detected; (b) those of hæmaturia in which “blood” seemed to be present; (c) those of albuminuria and hæmaturia, the albumen being greatly in excess of the hæmoglobin as found in blood. (3) That dropsy or œdema of the superficial parts was observed unmistakably in only three of the cases. (4) That a “pre-albuminuric” and a “post-albuminuric” stage (if the word be allowed) do not exist in the proper sense of the terms. (5) That a pulse of “high” tension was not an invariable accompaniment even of undoubted nephritis. (From Dr. Dittmar’s paper in the Glasgow Medical Journal, December, 1897.)

BLADDER.—Tuberculous Disease of.

Mr. Freyer observed in the London Medical Society that there were great difficulties in the diagnosis of tuberculous disease of the bladder. The hæmaturia, pain, and increased frequency of micturition which were usually present often suggested the presence of a stone, but, whereas the increased frequency of micturition in the case of calculus diminished when the patient was recumbent and during the night, there was no such remission in the case of tuberculous cystitis. Primary tuberculous disease of the bladder was very rare. He thought that it was almost always secondary to tuberculous disease in some other part of the genito-urinary tract, the site of primary disease being, in order of frequency, (1) epididymis, (2) vesiculæ seminales, (3) prostate gland, (4) testicle, and (5) kidney. He himself had opened the bladder in six cases for tuberculous cystitis, and he had regretted it in every case but one, and he thought that constitutional medical treatment did more for the patient. The local mischief appeared to increase after the erosion, and months elapsed before the suprapubic incision could be closed. He could not agree that the operation was free from risk, seeing that Mr. Barling had shown that out of about 50 children on whom suprapubic cystotomy was performed for stone no fewer than 20 per cent. succumbed. As regards the site of the disease, he thought from cystoscopic examination that most of the lesions were at the neck of the bladder or at the trigone owing to the proximity of the vesiculæ seminales, &c. (The Lancet, May 14, 1898.)

CYSTINURIA.

Dr. Walter Smith, reading a paper at the Royal Academy of Medicine in Ireland, said that few cases of cystinuria were upon record, probably not more than 75 in all, since the first recognition of cystin by Wollaston, nearly 90 years ago. Two cases had come under his observation, namely, in 1890 and 1897. The first case (already published) occurred in a boy, aged 8 years, in good health. The odour of the urine was fragrant; reaction faintly alkaline; sediment slate coloured. Cystin crystals were found rather sparingly in this deposit, associated with phosphatic crystals and CaCO_3 . The second case was that of a lady, aged about 50 years, who consulted Dr. Smith for rheumatic pains. The urine was faintly acid, and the white sediment consisted almost wholly of cystin, in elegant hexagonal crystals, insoluble in acetic acid, and soluble in ammonia. Cystin had no relation to uric acid. The probable antecedent of cystin in the body was cystein, a soluble base. Cystinuria was frequently associated with diaminuria, and both were possibly due to a common cause, namely, an intestinal mycosis. Hence the therapeutical indication was to disinfect the intestine. (British Medical Journal, April 9, 1898.)

CYSTITIS.—Etiology and Classification of.

Dr. Nicholas Senn, of Chicago, read a paper on this subject before the New York Academy of Medicine. He considered the etiology under the following heads:—(1) Predisposing causes—(a) Retention of urine; (b) abnormal urine; (c) tumours; (d) unrest of the bladder; (e) calculus and foreign bodies; (f) exposure to cold; (g) venous stasis and trauma. (2) Exciting causes—(a) Infection through the urethra; (b) infection by the urine; (c) infection from adjacent organs; (d) infection from the blood, &c. After mentioning Guyon's classification, he next considered this part of the subject, dividing it into (1) the anatomic, (2) pathologic, (3) clinical, and (4) the bacteriologic. He subdivided the anatomic into paracystitis, pericystitis, interstitial cystitis, cystitis; the pathologic into suppurative cystitis, exudative cystitis, catarrhal cystitis, ulcerative cystitis, exfoliative cystitis; the clinical into chronic cystitis, acute cystitis; and the bacteriologic into streptococcus infection, staphylococcus infection, bacillus coli communis infection, diplobacillus infection, saprophytic infection, gonococcus infection, erysipelatous infection, tuberculous infection. (Medical News, April 30, 1898.)

DIURETIN.—“Glucophenin.”

The fifth meeting for the session 1897-98 was held at the Owens College, on May 25, Dr. J. Dixon Mann presiding. Dr. Dreschfeld had found diuretin act well in acute Bright's disease, especially

in cases in which the urine was scanty. He had frequently seen the urine increase in amount from 12 or 15 to 80 or 100 oz. in the twenty-four hours. In post-scarlatinal nephritis the drug did not seem to give such good results. In chronic parenchymatous nephritis he had found it act when digitalis and other drugs had not succeeded, but the effects were only temporary. There was no definite reduction of the amount of albumen. On the other hand, there was no evidence of irritating action. In interstitial nephritis the results had been disappointing, and in these cases toxic effects were more liable to occur. As regards its use in heart disease, Dr. Dreschfeld had found diuretin of great value in cases of mitral disease, especially when the dropsical symptoms had come on suddenly. In aortic disease the results had not been so satisfactory: there was no relief to the anginal symptoms, no great diuresis, and the drug was not always well borne. In simple dilatation without valvular lesion where digitalis had failed, diuretin had sometimes succeeded. In cirrhosis of the liver the effects of diuretin were sometimes startling. He had seen diuresis amounting to four or five quarts of urine in the twenty-four hours. The cases which seemed to respond best to diuretin were those in which dropsy had developed suddenly. In older people with ascites coming on gradually diuretin had failed. In two cases of pleuritic effusion, Dr. Dreschfeld had observed rapid recovery under the use of diuretin, but in other cases no marked effect was observed. Dr. Dreschfeld gives diuretin in from 10 to 12 gr. doses three times a day at first, increasing to 30 gr. doses if necessary. As regards its ill-effects, sometimes diuretin is not well borne, producing nausea, vomiting, and occasionally signs of collapse. Often when diuretin alone does not answer, it succeeds on combining it with digitalis. (The Lancet, June 11, 1898.)

GONORRHOEA, METHYLENE BLUE IN.

The *Philadelphia Polyclinic* of February 19, 1898, contains a paper by Orville Horwitz, giving the results in 105 cases of gonorrhœa treated with methylene blue, in which the author has shown that this drug has a markedly germicidal effect upon the bacillus of this disease. From his experience he concludes:— (1) That methylene blue is a germicide of great value in cases of acute urethritis, due to the presence of gonococci. (2) That it will not abort the disease, but will materially shorten its duration. (3) That it markedly lessens the tendency to complications. (4) That it is not employed in the treatment of acute urethritis unless a bacteriologic examination demonstrates the existence of gonococci. (5) That the remedy should be employed as soon as possible after infection. (6) That the

proper dose with which to begin treatment is one grain three times a day, to be increased to two grains if the remedy is well borne. (7) That the beneficial action of methylene blue is enhanced and the duration of the disease shortened by combining it with copaiba, sandalwood oil, and salol. (8) That injections of potassium permanganate by means of a hard syringe, or, if possible, by irrigation, administered in the early stages of the disease, and followed during the period of decline by an astringent injection, have a marked tendency to shorten the duration of the malady. (9) That methylene blue is of no service in cases of non-specific urethritis. (*The Medical Age*, February 25, 1898.)

KIDNEY, HEMORRHAGE IN GRANULAR.

One of the common results of granular kidney was hemorrhage, and this might take place in almost any part of the body; thus it was common in the brain, and was a common cause of apoplexy, especially in early life. It was a frequent cause of epistaxis, and a case was quoted in which epistaxis was almost the first symptom of serious disease, and the patient died of uræmia within six weeks from the commencement of the symptoms. Hemorrhages might also take place from the gums, pharynx, stomach, and bowels, and a case of hæmatemesis in the course of granular kidney was mentioned. Hæmoptysis also probably occurred, but was rare. About hemorrhage from the bladder more was known, and it might sometimes be profuse and produce very puzzling symptoms. Cases of this kind were quoted in which the diagnosis had to be made from a calculus in the bladder, but post-mortem nothing was found but granular kidney. Recurrent hæmaturia was a frequent occurrence in small amount, and was a point of diagnostic importance. Hemorrhages into the retina were part of albuminuric retinitis, and attachment of the retina was not altogether uncommon, but generally the effusion was not blood, but serum. Hemorrhage had also been observed beneath the conjunctiva and behind the orbit, the latter producing puzzling symptoms during life. Hemorrhages into the skin were not known. Heart failure was a more common symptom, and the cases might present themselves as cases of angina. (From Dr. West's paper in the *British Medical Journal*, March 5, 1898.)

NEPHRECTOMY AND PREGNANCY.

Analysing a number of cases, including three of his own, Dr. Twynam finds:—(1) All the women made good recoveries who went to term, although Schramm notes a long recovery. (2) Slight albuminuria was noticed in Schramm's case and in

No. 1 of mine. (3) A tendency to ventral hernia in one case. (4) Liquor amnii was not excessive in any case. (5) Marked œdema is not noticed in any case. (6) Schramm notes an irregularity of the pulse shortly after the confinement, although hypertrophy of the left ventricle was present. (7) Morning vomiting was severe, but not dangerous, in one case. (8) The forceps were used in one case only, and then merely to prevent ventral hernia. (9) Eclampsia or uræmia did not occur in any case that went to full term, but did in my case, No. 3, shortly after the miscarriage. (10) All the children were healthy, and in Tridondani's and my case, No. 2, it is specially remarked that they were the healthiest the woman bore. (11) In all the cases the mothers nursed their children. Hence, I think we may fairly conclude that women can, after a nephrectomy, bear children without very great danger to themselves, provided their organs and the remaining kidney are healthy. I may add that I have heard of another case in which mother and child did well, but I have not been able to obtain particulars as yet. The cases show that seven women have undergone the ordeal, and that ten healthy children have been born at term. (*British Medical Journal*, February 12, 1898.)

NEPHRECTOMY, THE OTHER KIDNEY IN.

Dr. George M. Edebohls thus concludes his paper:—Before extirpating a kidney, a knowledge of the presence and condition of the other kidney becomes of paramount importance. The aids to obtaining such knowledge are:—Examination of the urine, palpation of the kidney, cystoscopy, catheterisation of the ureters, skiagraphy, the fluoroscope, and, finally, exploratory incision. The presence of a second kidney is determinable by most of these aids. None of these aids, however, with the exception of the last-mentioned, can, in all cases, give us completely satisfying information regarding the exact condition of the other kidney. In cases of pyuria and tuberculosis of vesical or unilateral renal origin, catheterisation of the ureters involves the risk of infection of a previously healthy ureter and kidney, and should be avoided. Incision down upon, delivery, and examination of both kidneys (lumbar exploratory incision), as originally proposed and carried out by the writer, should be the rule in every contemplated nephrectomy in which we are not absolutely and beyond peradventure certain of the presence and exact condition of the other kidney. Modern surgery, with improved methods and techniques, has rendered lumbar exploratory incision a safe and expeditious procedure, the most, and generally the only, reliable one for determining the exact condition of the other kidney. (*Annals of Surgery*, April, 1898.)

TUBERCULOSIS, THE REMOTE RESULTS OF OPERATIONS FOR RENAL.

Bangs (*Annals of Surgery*, January, 1898) has collected 135 cases of nephrectomy and nephrotomy for renal tuberculosis, with the object of determining the effects of operative treatment in such cases in prolonging life and effectually curing the disease. The results of this inquiry, though avowedly meagre, are regarded as interesting and worthy of repeated study. The first and undoubted conclusion which they warrant is, the author states, that the immediate results of the operations for renal tuberculosis in the case in which such treatment is indicated are brilliant. On the other hand, it has been found difficult to arrive at any definite conclusion as to the remote results. So many of the cases have been lost sight of that the conditions of the patient after intervals of months or years, and during these months and years, are unknown. It is thought, however, that these statistics favour the view that operative intervention affords better remote results by expectant treatment and suitable hygienic measures. (Epitome, *British Medical Journal*, March 5, 1898.)

TUBERCULOUS DISEASE OF BLADDER.—Treatment of.

Mr. C. Mansell Moullin agreed that constitutional treatment ought in every instance to have a thorough trial before recourse was had to any other measure. Drainage was at best only a palliative; sometimes, indeed, it only made matters worse, the track of the drainage tube becoming infected in its turn. The only procedure that in suitable cases held out some hope of cure, or at any rate of considerable relief was suprapubic cystotomy, which gave access to the disease. Against this operation had been urged its danger; that even after it had been done the removal of the tuberculous material was almost impossible; and, lastly, that as the growth in the bladder was most often secondary to disease elsewhere, the effect of the operation must be practically *nil*. Taking these points *seriatim*, he observed that, if properly performed, suprapubic cystotomy was virtually unattended by risk. The removal of the tuberculous disease might indeed present considerable difficulty in certain cases, especially in those in which the diagnosis had been made too late. He insisted on the necessity of arriving at a diagnosis much earlier than was usually done. The disease was one which manifested itself from the very beginning by irritability of the bladder and hæmaturia. The cystoscope enabled one to detect ulceration of the bladder at once, and the detection of the bacillus, even when present in small numbers, was rendered easy by the centrifugal machine. During the last

few years, since, in fact, one had paid more attention to the subject, the proportion of cases of primary disease of the bladder had gone on increasing, and operations had been performed with a fair measure of success. He himself had operated in three cases. (British Medical Journal, May 14, 1898.)

GENERAL SURGERY, AND AFFECTIONS OF THE BONES, JOINTS, &c.

CALOT'S METHOD.

Theoretically, the advantages of Calot's method are (1) immediate, complete, or partial correction of deformity; (2) removal of pressure and irritation from the cord, resulting in some cases in relief from neuralgic and paralytic symptoms; (3) separation of the diseased surfaces of bone, thus avoiding pressure and irritation which are supposed to favour continuance and spread of disease; (4) gain in length of the spine; (5) avoidance of malformation of the chest walls and injurious alteration of the positions of organs. The disadvantages which have been claimed are (1) production of a large cavity, which may not fill up with sufficiently firm tissue; (2) non-formation of supporting masses of new bone, and consequent weakness of the spine and recurrence of deformity; (3) rupture of tubercular material into the mediastinum; (4) increase of the disease by local injury, separation of fragments of bone, &c.; (5) production of tubercular meningitis, or of general tuberculosis; (6) injury to the cord or to its membranes; (7) production of abscesses. Certain of these objections undoubtedly have weight, while others are more or less imaginary, or at least are not greater than are met with in the correction of deformities due to tuberculosis elsewhere in the body. Considering the number of cases already reported, and the favourable results obtained, we are certainly justified in operating upon reasonably recent cases with not too great deformity where but moderate force is required; and especially upon those with neuralgic or paralytic symptoms which do not tend towards improvement. The straightening process is, perhaps, more likely to relieve anterior pressure upon the cord than would a laminectomy. On the other hand, we must recognise that the method is yet in its experimental stage, and that we cannot speak with certainty as to the durability of its immediate achievements. It is to be noted that forcible *redressement* in one sitting may be applied to deformities of the spine arising from causes other than tuberculosis—in ordinary scoliosis, in rachitic curvatures, &c. (From Mr. Leonard Freeman's paper in the Annals of Surgery, April, 1898.)

FRACTURES BY THE AMBULATORY METHOD.— Treatment of.

Dr. G. E. Armstrong showed, before the Montreal Medical Society, a man whom he was treating for fracture of the tibia by the ambulatory method, and gave the following description of it :—The idea is to apply a fixation apparatus that will enable the patient to use the broken leg in progression. To allow the patient to get out of bed and to go about with the aid of crutches is the idea in the ambulatory treatment of fractures. To attain this object any fixation splint may be used, but plaster of Paris has been chiefly employed, either alone or together with other splints. I have tried to carry out the idea in eight or ten cases recently admitted to the wards of the Montreal General Hospital, and I find that in properly selected cases this method possesses decided advantages. In this man, the fracture is of both bones about the middle of the leg, and the fracture of the tibia is very oblique. He limps along, but that is about all the inconvenience he has. One great advantage is that the patient can get out of bed. The ability to move about is a great gain. A business man may go down to his office for an hour or two each day and look after his affairs. The advantage is still greater in the case of old people with fracture of the neck of the femur. By avoiding the confinement to bed pneumonia is prevented. I find this method adapted to the treatment of Pott's fracture and fractures of the fibula. The other advantages claimed for the ambulatory method are lessening of the muscular atrophy and the stiffening of joints, more rapid repair, and the avoidance of delirium tremens. (Montreal Medical Journal, March, 1898.)

GLANDULAR ENLARGEMENTS IN THE NECK.

The glandular enlargements of the neck are divided by Miller (*Scottish Medical and Surgical Journal*, December, 1897) into six groups differing slightly from the usual anatomical division :—(1) Those at the back of the neck, the occipital group. (2) Those behind the ear, the mastoid group. (3) Those in front of the ear, the parotid group, which may again be divided into the superficial and the deep. (4) Those under the jaw, the sub-maxillary group. (5) Those lying along the sterno-mastoid muscles, the sterno-mastoid group, which are divided into superior and inferior. (6) Those above the clavicle, the supra-clavicular group. The groups of glands he describes receive their lymphatics from the areas surrounding them : the occipital from the posterior part of the scalp ; the mastoid from the scalp and ear ; the parotid from the front of the head, the ear, and several other parts. This group is further sub-divided into the superficial and deep. The former glands are served by vessels

from the front of the scalp, the external ear, and meatus; while the latter are connected with the orbit, nose, pharynx, middle-ear, and upper teeth. The sub-maxillary glands derive their lymph from the cheeks, lips, mouth, and lower teeth. Of the sterno-mastoid groups which, along with the sub-maxillary glands, are the most frequently affected, the upper series is connected with the tonsils, pharynx, œsophagus, and larynx; while the lower ones are related to the deeper structures and are generally found to become affected secondarily to the upper ones. The supra-clavicular are connected with the intra-thoracic and axillary glands. The clinical importance of these relations is the fact that the cause of the enlargement is usually found to be in these regions. Glandular enlargement has always a cause, which should be sought for and removed if possible. If the cause be not removed the enlargement will persist, and such persistence may give occasion to tuberculosis. Persistent enlargement, after removal of all discoverable causes, generally means tubercular infection or a pre-tubercular condition; therefore, all persistently enlarged glands should be excised. (From abstract in the American Journal of Medical Science, May, 1898.)

HARE-LIP.

A *résumé* of the important points in the treatment of hare-lip will include the following considerations:—(1) Hare-lip babies are not necessarily feeble at birth, and by proper feeding can be kept up to the normal standard. (2) Keep the field clean with aseptic washes before the operation. (3) Operate in the sixth to the eighth week. (4) Do not slash with scissors, but cut and trim carefully with a knife. (5) Free the upper lip thoroughly from the jaw. (6) Anchor the nares with shotted wire. (7) Use no pins or heavy outside sutures. (8) Use *crêpe lisse*, not surgeon's plaster. (9) Leave the heavy inside stitches for six days. (10) After operation give special attention to the care of the bowels and to proper feeding, as on this very often hangs the whole success of the operation. (From Dr. J. G. Mumford's paper in the Boston Medical and Surgical Journal, March 3, 1898.)

HIP, CONGENITAL DISLOCATION OF.

Traction in a straight direction cannot effect a cure. Traction in strong abduction with downward pressure upon the head may bring about reduction. In children over 2 and under 5 years—in some instances between 5 and 7 years—under an anæsthetic, forcible reduction can be successfully used. This can only be accomplished if the head of the femur is forced into and through the capsular neck dilating it, into the acetabulum,

and only after the capsular attachments adducting and flexing the limb are thoroughly stretched. Successful reduction is always accompanied by an audible movement of the head of the femur into the capsule; bandages and fixation apparatus are to be used to prevent relapse, until the contracted tissues are sufficiently long and the pelvi-trochanteric muscles have regained their power to a sufficient extent that a recurrence of the dislocation is impossible. In cases older than 7 and under 15 years, and in some cases between 5 and 7 years, an open incision is necessary for reduction of the dislocation. The line of incision following the outer edge of the tensor vaginae femoris is the preferable incision. Inability to reduce the head is due to capsular attachments from the acetabulum and ilium to the femur, which have not yet been divided or stretched. In old adolescents, or adults, the operation where extensive alterations in the bones takes place, operative reduction has not been successful. The use of corsets and traction splints may improve the attitude, but cannot cure. (From Dr. Bradford's paper in the American Journal of Medical Science, 1897, p. 524.)

OÖPHORECTOMY FOR INOPERABLE MAMMARY CANCER.

Professor Watson Cheyne related two cases before the Harveian Society in which he had performed oöphorectomy for inoperable breast cancer. The patients were women, aged 34 and 33 respectively. In the first case the operation was followed by marked effect on the growth of the cancer, and led to very distinct breaking down of portions of the growth. But the effects passed off, so that at the end of six months the disease began to grow again, and had since made marked strides. In the second case little or no material benefit followed oöphorectomy, and the patient died six months after the operation. The author held it clear that there is a distinct connection between the normal epithelium of the breast and also between cancerous epithelium of the breast, and the ovaries. But unfortunately the effect of the removal of the ovarian influence is only more or less transitory, while in many cases no effect is produced at all. In future cases he thought it would be well either at the same time, or possibly later, to remove as much of the noticeable disease as possible in addition to oöphorectomy. (Medical Press and Circular, April 27, 1898.)

PLASTER OF PARIS.—The Setting Time of.

In an article in *Treatment* for March 24, Mr. D'Arcy Power and Mr. James A. Belcher state that they have lately been in the habit of mixing the plaster of Paris with salt solution to cause its more rapid consolidation. The results appeared to be so

satisfactory that Mr. Belcher undertook a series of experiments to ascertain what effect, if any, various substances in solution had upon the "setting time" of plaster of Paris, with the following results:—Two drachms of plaster of Paris, mixed with one drachm of 5 per cent. solution of sodium chloride, hardened in two minutes. Mixed with one drachm of a 5 per cent. solution of sugar, it hardened in three minutes and a half. Mixed with one drachm of a 1 per cent. sodium-chloride solution, it hardened in five minutes. Mixed with one drachm of a 0·5 per cent. sodium-chloride solution, it hardened in five minutes. Mixed with one drachm of a 5 per cent. calcium-chloride solution, it hardened in six minutes and a half. Mixed with one drachm of tap water, it hardened in nine minutes. Mixed with one drachm of distilled water, it hardened in nine minutes. Mixed with one drachm of saturated solution of sodium chloride, it hardened in eighteen minutes. Mixed with one drachm of a 5 per cent. solution of glycerine in distilled water, it hardened in nineteen minutes. Mixed with one drachm of a 5 per cent. solution of white of egg in distilled water, it hardened in twenty minutes. Mixed with one drachm of a 10 per cent. solution of white of egg in distilled water, it hardened in twenty-five minutes. Mixed with one drachm of a 10 per cent. solution of glycerine in distilled water, it hardened in thirty-three minutes. Mixed with one drachm of a 25 per cent. solution of glycerine in distilled water, it hardened in sixty minutes. These figures tell, says Mr. Belcher, their own tale, and show that where it is of importance to make plaster of Paris set rapidly it should be mixed with a 5 per cent. solution of common salt, and this may be made roughly by adding a tablespoonful of salt to a pint of water. (New York Medical Journal, April 16, 1898.)

STERILISATION OF INSTRUMENTS.

The defects which are inseparable from the ordinary methods of sterilisation can be very simply avoided by employing as our sterilising agent olive oil at from 160° to 180° C. instead of water at 100° C. In order to obtain complete sterilisation by this method it suffices in the case of a surgical instrument to dip it for an instant into the hot oil. In the case of a syringe, it suffices to fill in the syringe twice with oil at the stated temperature. The temperature may be determined either by a thermometer, or if a thermometer is not at hand by a piece of ordinary bread-crumbs. It will be found that the bread-crumbs will become brown and crisp as soon as a temperature of from 160° to 180° C. is reached. This method of sterilisation has been found very convenient in the ordinary routine work of the laboratory. It will probably also prove of service in surgical practice. It is especially applicable in cases where there is

no time for the prolonged soakage of instruments, and further in cases where an instrument has become accidentally contaminated in the course of an operation. The method of employing hot oil as a sterilising agent is also a method which would appear to be readily applicable in ordinary practice for the sterilisation of syringes. The olive oil may be heated in a spoon over a spirit lamp, and the heat may be tested by the proposed bread-crumbs thermometer. It is to be noted that the method is not applicable to the sterilisation of indiarubber tubing. (From Prof. A. E. Wright's paper in *The Lancet*, January 8, 1898.)

STERILISATION OF THE SKIN.

Landerer and Krâmer, of Stuttgart, record their experience of the capacities of formalin as a germicide to be applied to the skin of the patient. After the usual cleansing with soap and water, and shaving with the razor, a compress soaked in 1 per cent. solution of formalin is applied, and covered with a sheet of mackintosh. Immediately before the operation the washing and shaving are repeated; the skin is then rubbed with ether, and finally with corrosive sublimate. Careful bacteriological examination showed the skin to be sterile in 80-90 per cent. of the cases. The wounds in sixty cases healed by first intention, except in three cases of large hernia, in which portions of the thick sac were thrown off without any rise of temperature. The special merit of formalin as a disinfectant for the skin lies in its capacity for acting in the form of vapour as well as of solution; it is thus able to penetrate the deeper layers of the skin, and to act upon the organisms therein embedded. The usual antiseptics, when applied to the skin, are only able to account for the bacteria on the free surface.—*Centralbl. f. Chir.*, Leipzig, February 26, 1898. (From Mr. Alexis Thomson's periscope in the *Edinburgh Medical Journal*, April, 1898.)

TUMOURS.—Etiology of.

With the continued investigations in the study of our so-called tumours, Mr. Frank Hartley believes that a classification in which the primary cause will be the criterion will place our tumours:—(1) As the results of traumatism. (2) As the results of inflammatory processes, especially those followed by cicatrization and ulceration—*i.e.*, a local disturbance in the nutrition of a part. (3) As the results of congenital anomalies. (4) As the results of disturbances in nutrition, due to toxines, chemical or possibly parasitic, developed most frequently upon a soil prepared by traumatism, inflammation, or a sequestrated anomaly. (*Annals of Surgery*, April, 1898.)

AFFECTIONS OF THE SKIN, &c.

ACNE, BROMIDE.

At the "Gesellschaft der Aerzte," Prof. Neumann showed a patient of his who had just come from Russia with the extremities covered with efflorescent vesicles with highly elevated margins, while the centre was depressed or pitted as in small-pox. There was fever and paresis of the right side of the body present, accompanied by nephritis. The differential diagnosis lay between infectious vaccinia, malleus, and bromide acne, and after reflection he determined on the latter. In the course of the discussion, Kaposi said he concurred in the diagnosis of a medicinal rash, but thought this case was an iodide exanthem, as the efflorescence of the bromide vesicle had a brownish hue, whereas this one was red. It was just possible, however, that the patient had had syphilis, and had been recently treated with iodide with the present result. In England and France the plaques are described as much larger in the iodide exanthem, but in Austria no such difference of size has so far been observed. (Medical Press and Circular, May 4, 1898.)

AGAR-AGAR IN DERMATOLOGY.

At a recent meeting of the Paris Therapeutical Society (*Klinisch-therapeutische Wochenschrift*, February 13, 1898), Dr. P. Gallois recommended very highly the use of an agar-agar jelly as a vehicle for the application of remedies to the skin. The mixture has much to commend it. Its preparation is simple, merely the addition of one to two parts of powdered agar-agar to a hundred of hot water. There is no preliminary warning necessary, as with the gelatine vehicles. It is also cheap and easy of application. The patient takes a small piece of the jelly and smears it over the area to be treated. The thin film so formed dries very quickly, and does not contract and pull on the skin as the gelatine film is apt to do, yet it produces the same cool, refreshing feeling when applied that is characteristic of the latter. Zinc oxide unites well with the jelly, and this mixture is an excellent one for eczema. Picric acid is incompatible, but corrosive sublimate may be used according to the following formula, and is recommended in erysipelas:—R Agar-agar, 10 parts; corrosive sublimate and tartaric acid, one part each; distilled water, 1,000 parts. M. Dr. Gallois suggests also the use of this bichloride jelly as a lubricant for sounds, in which case it is advisable to add a small quantity of glycerine to prevent the drying of the mass on the instrument. (New York Medical Journal, April 9, 1898.)

HERPES ZOSTER OF THE TRIFACIAL NERVE, BILATERAL.

Mr. H. Hallam relates a case in a girl, aged 13. The eruption commenced six days previously on the right side of the face, followed immediately by conjunctivitis and bleeding from the nostril of the same side. The following day the left side of her face began in the same way. The eruption was not preceded or accompanied by tingling, pain or tenderness. There was no history of dental trouble or of her taking any drugs. All authorities consider double herpes zoster rare. Crocker says it usually affects the fifth pair of nerves, and is probably syphilitic in origin. There was no history nor were there any signs of syphilis in this case. Crocker and Head both speak of the strong liability for conjunctivitis and corneal ulceration to occur in cases where herpes implicates the nasal and frontal branches of the fifth nerve. As regards the history of recurrence in this case (and of course it is only a history), Crocker says this is exceedingly rare, and only quotes two cases. As to whether this was a real case of bilateral herpes zoster, or only one of herpes febrilis, there are several points to consider. Against it being true zoster are:—The absence of pain and tenderness before the eruption appeared, the abundance of the eruption, its appearance on both sides of the face, and especially the history of its recurrence. On the other hand, its severity favours the opposite view, and the eye and nose complications show conclusively that it was a case of bilateral herpes zoster. (Quarterly Medical Journal, January, 1898.)

IODIFORM.—Local Effects of.

Mr. J. Hancocke Wathen (Clifton) read a paper before the Dermatological Society on a Personal Reminiscence of the Local Effects of Iodoform, in which he described the attacks of bullous dermatitis of the hands which had followed the handling of dry iodoform gauze. The cause of the condition of the skin was at first thought to be gout. Mr. Wathen referred to the similar personal experience of Mr. Jessop, of Leeds, and stated, with regard to treatment, that great relief had been obtained by the firm application of bandages to the fingers, with boracic ointment and occasionally thick gruel, followed by a visit to Harrogate and Ilkley, with the use of Aix douche baths. There had been no fresh attack since avoidance of iodoform.

Dr. Bowles insisted on the great importance of recording such cases of morbid conditions arising from the use of drugs, either locally or internally.

Mr. Pernet said he had seen a few cases of iodoform dermatitis. In one an acute localised vesicular eruption followed the application of iodoform powder to a varicose ulcer. (The Lancet, February 5, 1898.)

LUPUS ERYTHEMATOSUS.—Salicin in.

Radcliffe Crocker showed at the Dermatological Society of London (*Brit. Journ. Derm.*, January, 1898) two cases of lupus erythematosus, one cured and the other greatly improved by the administration of salicin in 15-grain doses three times a day. Both were women over thirty, and both had suffered from the disease for over a year. In both the disease occupied nearly the whole of the cheeks up to the orbit and across the nose. In one 15 grains of salicinal were given thrice daily from July, 1897, and only one spot of disease remained on the upper lip. In the other a similar treatment had been carried out from August, 1897, and patches of disease only remained on the nose and the malar eminences. Calamine lotion was applied locally. (Treatment, April 14, 1898.)

LUPUS.—Treatment of.

(By William Anderson, St. Thomas's Hospital Report, 1897, vol. xxv.). Of the operative measures, scarification acts slowly. It cuts up the morbid tissue into minute segments, apparently leaving the infective organisms to the vengeance of the phagocytes attracted to the part by the surgical summons. It may sometimes be used with advantage in the more superficial forms. When successful, the scar left is the best obtainable. For the cross-hatching a common scalpel is the preferable weapon. Afterwards, the immediate application of a 5 per cent. solution of pure carbolic acid is a valuable addendum, followed by the employment of a salicylic ointment, 20 grs. to the ounce. It is useless for lupus vulgaris of any great depth. Erosion, however thoroughly done, is disappointing. The curette is arrested by the fibrous floor and wall, and these are already invaded; hence in the new cicatrix, which often exhibits a fibroid thickening, fresh lupus tissue crops up, as also at the margins. To the scraped surface he now applies an ointment containing 20 to 30 grs. of salicylic acid and 20 to 30 minims of creosote. Under this, cicatrization proceeds rapidly and the scar is more satisfactory. Excision is the method he prefers in all suitable cases. For patches not exceeding a crown piece in size it is the most permanent and sightly. The wound may be treated in three different ways, according to circumstances. If small, it may be closed by suture, leaving a linear cicatrix; if large, it may be grafted either immediately or subsequently. Recurrence is exceptional in the cicatrix or at the borders. New foci can be dealt with in the same way elsewhere. Where the areas are extensive, he has adopted the plan of excising the growing borders of the disease, vigorously curetting the rest, covering the whole with salicylic ointment until cicatrization is well started and then using epidermic grafts if necessary. Generally

the process of repair in this way is so rapid that the latter procedure is uncalled for. The third method of treating the wound is by gliding on to it a portion of skin from the neighbourhood. The removal of the active growing edge has a favourable, sometimes curative, effect on incipient or indolent patches beyond. (From abstract in Dr. Jameson's periscope, *Edinburgh Medical Journal*, April, 1898.)

PEMPHIGUS NEONATORUM.

In reporting this case, Dr. Emmet Holt (*New York Medical Journal*, February 5, 1898) points out that the acute form of pemphigus seen in very young children has nothing in common with the chronic form seen in older children and adults. He believes that the majority, if not, indeed, all the cases noted, with the exception of those due to hereditary syphilis, are due to some form of general septic infection, of which the bullous eruption is only one of the manifestations. That this was so in this particular instance is abundantly evidenced by the following condensed report of the case:—An otherwise healthy infant of nine days, vigorous, and well nourished, was admitted into the Babies' Hospital (New York) on December 9, 1896, with the shoulders, buttocks, and thighs covered with bullæ of the usual characters, and with a purulent ophthalmia not due to gonococci. The contents of two of the bullæ examined showed pure cultures of staphylococcus pyogenes aureus. The following day symptoms of general infection were present, and from that time on its condition became gradually worse until death on December 22. During this time new bullæ kept on making their appearance, and their evolution was very rapid. The autopsy showed the presence of various pathogenic organisms in the lungs, kidneys, spleen, and liver. The staphylococcus pyogenes aureus and streptococcus longus were both found in all the organs mentioned except in the lungs. (*Montreal Medical Journal*, March, 1898.)

SCABIES.—Treatment of.

The treatment consists, first, in friction for half an hour of the whole body, except the head, with black soap, and it is continued by the patient himself during an hour while in a tepid bath. When he leaves the bath he is given to apply:—℞ Lard, 64 parts; sulphur, 20 parts; potassium subcarbonate, water, āā eight parts. M. S. externally. The patient then dresses, without wiping off the ointment, for the contact of this is necessary for the destruction of any remaining acari, and of any that might remain in the garments. Of 37,429 persons so treated at St. Louis Hospital in ten years, only 535 required a second application. (Dr. Hardy, *Medical Record*, April 30, 1898.)

AFFECTIONS OF THE EYE, EAR, THROAT, &c.

CHANCRE, EXTRA-GENITAL.

At a recent meeting of the ophthalmologic section of the College of Physicians, Philadelphia, Dr. G. E. De Schweinitz (*Medical News*, February 12, 1898) described and exhibited a water-colour sketch of a case of chancre of the conjunctiva in a physician who became infected during the delivery of a pregnant woman. The physician's face was spattered by some of the discharge, and was hastily wiped off with her apron by an officious bystander. The diagnosis was not made till the lymphatic glands of the face and neck became swollen, and the specific eruption appeared on the chest and limbs. Under antisyphilitic treatment the ulcer which had appeared on the conjunctiva rapidly healed, and all symptoms disappeared. (*Quarterly Medical Journal*, April, 1898.)

EAR-COMPLICATIONS IN INFLUENZA.

Eagleton claims that cases of catarrhal otitis complicating influenza, and going on finally to suppuration, may present one of three conditions that "are probably due to the influence of the presence of Pfeiffer's bacillus":—(1) Distinctive types of hemorrhagic otitis. (2) Primary mastoiditis or periostitis before involvement of the middle ear, due apparently to direct infection by the bacillus, and not to extension from the nasopharynx. (3) Rapid caries and necrosis of ossicles or mastoid, this last being of very frequent occurrence. He also thinks that the presence of the influenza bacillus exerts a very unfavourable influence on the bony structures of the ear, often converting apparently simple cases of acute suppurative otitis into very malignant ones, with rapid destruction of bone, not only in the drum-cavity, but in the mastoid.—*Transactions of the American Otological Society*, vol. vi., part iv.

[We have never observed any specific tendency toward virulency nor malignancy in otitis media occurring in epidemic influenza. The course of otitis media in this disease, as in all others, depends upon the judicious, non-irritative treatment of the primary inflammation in the nose and ear.] (*American Journal of Medical Science*, April, 1898.)

EARS, BUZZING IN THE.

M. Courtade, in the *Journal des praticiens* for April 2, says that if an examination of the ears does not reveal any lesion, it must be ascertained if the buzzing may not be due to the ingestion of certain drugs, such as quinine and sodium salicylate; it may also be due to vascular souffles, like that observed in chlorotic subjects or in certain forms of aneurism near the

petrous portion of the temporal bone; in these cases, however, the noise may be perceived also by the physician, and it then becomes objective; furthermore, these murmurs are isochronous with the pulse, and are more readily perceived when the patient closes the auditory canal; their peculiar character enables the physician to distinguish easily the noises which may be compared to the buzzing of bees, to the sound of bells, to the hissing of steam of a locomotive, or to the more complex noises of a musical phrase, of a melody, which more frequently reveals an affection of the middle or inner ear. (From abstract in the *New York Medical Journal*, April 23, 1898.)

GLAUCOMA.

Dr. D. S. Reynolds' conclusions, briefly stated, are as follows:— (1) Incipient glaucoma is frequently relieved by improved nutrition, with correction of any existing errors of refraction. It is sometimes relieved by the iodide of potassium, associated with the local use of eserine drops. (2) Mild and insidious cases of inflammatory glaucoma, between paroxysms, may exhibit but little tension. They require iridectomy for the drainage of the engorged vessels during the paroxysm, and constitutional treatment to aid in the elimination of accumulated *débris* in the tissues. (3) Inflammatory glaucoma, excluding the traumatic cases, should be accepted as a manifestation of rheumatic diathesis; and, while iridectomy should constitute a necessary part of the treatment, it should not be relied upon to the exclusion of the all-important constitutional measures. I do not think iridectomy should ever be done as a prophylactic measure simply. (4) Since iridectomy can accomplish nothing beyond the establishment of drainage for the vessels of the iris and contiguous structures into the aqueous chamber, the amount of iris should be small. The operation should not be repeated in any case. Supplemental constitutional treatment is imperatively demanded in every case where iridectomy is done. (5) In all cases of increased tension of the eye, with peripheral contraction of the field, engorgement of the retinal veins, with or without visible cupping of the disc, constitutional treatment is necessary; and, above all, strict attention to the state of general nutrition and habits of the patient. (From the *Journal of the American Medical Association*, January 8, 1898.)

HOLOCAINE.

Anæsthesia of the cornea is produced by holocaine in fifteen seconds after the instillation of one drop of a 1 per cent. solution, and lasts for ten minutes. Cocaine requires a wait of ten or twelve minutes for the beginning of full anæsthesia of the cornea. Also anæsthesia of the iris is produced by the

use of holocaine, a result which is not obtained in cocaine anæsthesia in cases where the tension of the eye is increased, as in glaucoma. Holocaine anæsthesia seems to be indefinitely prolonged by repetition of the solution, which is not the case with cocaine. Neither the pupil nor the accommodation is affected by holocaine, which renders it especially useful before removal of intrusive foreign bodies, irritating medicines, &c., from the eye. The only disadvantage in the substitution of holocaine for cocaine for anæsthetic purposes is that bleeding is more copious under holocaine. (From Professor Gillman's periscope in the *Medical Age*, March 18, 1898.)

MASTOIDITIS.—The Treatment of.

Should there be indications of fluid in the middle-ear, paracentesis of the drum should be immediately performed, thus providing free drainage. The parts may be irrigated with an antiseptic solution, and cold applied over the mastoid by means of the Leiter coil. This should never be used more than forty-eight hours, as by the long-continued lowering of temperature the vitality of the tissues is impaired and in consequence the disease is aggravated. An incision through the soft parts over the mastoid and down to, but not entering, the bone, the so-called Wild's incision was formerly recommended in practically all cases, but now has been discarded by the otologist as being of no value in aborting the inflammation, and at the same time it presents a new field for septic absorption. Should pain be excessive, anodynes may be employed in small doses during a short time, but this practice is dangerous, as important symptoms may be masked and indications for operative procedure thus not be recognised. Should the inflammation give no indications of lessening within forty-eight hours under the treatment mentioned, we should not delay operation for the appearance of the objective signs of mastoid involvement, such as œdema and redness, but a safe rule is to operate as soon as there is bulging of Shrapnell's membrane and drooping of the posterior and upper cutaneous lining of the wall of the external auditory canal. The operation which has been received with the most favour in this country is known as the Stacké operation, and it is performed in the following manner. The auricle is drawn well forward and detached along its posterior border. The cartilaginous auditory canal is then detached from the bony canal, laying open the posterior wall of the bony canal and antrum into one cavity. Granulations and necrotic tissue are removed and the resulting hollow covered with skin and periosteal flap from the external auditory meatus. (From Dr. S. Oppenheimer's paper in the *Medical News*, May 7, 1898.)

NEURO-RETINITIS, SYPHILITIC.

Lyman Ware (Chicago) has not seen a single case of syphilitic neuro-retinitis following thorough and prolonged antisymphilitic treatment. It never terminates in spontaneous recovery. Without treatment it is sure to end fatally. The most skilful treatment, even begun at an early stage of the disease, may prevent a fatal termination in many cases, yet often life is rendered miserable and sad by partial or total blindness. Large doses of potassium iodide are of value in arresting the disease in some severe and dangerous cases, but they do not compare with mercury in eradicating the syphilitic poison. The manner in which the mercury should be used is of secondary importance. For years he relied mainly on inunctions, but recently has resorted to hypodermic injections of the preparation proposed by Althaus, which consists of metallic mercury, 1 part; lanolin, 4 parts; carbolic oil (2 per cent.), 5 parts. The usual dose, 5 minims, may be gradually increased to 10, giving an injection once a week, in the region of the glutei muscles.—*Archives of Ophthalmology*, 1897, p. 345. (*American Journal of Medical Science*, December, 1897.)

PARACENTESIS OF THE DRUM MEMBRANE.

The chief indications for paracentesis of the drum membrane, as practised in Dr. Randall's ear clinic, are as follows:—(1) When there is great pain associated with a bulging membrane due to retained purulent secretion, and the proper drainage canal through the Eustachian tube to the nares is impervious to gentle Politzerisation. (2) When the tension of the drum membrane is high, but the bulging is slight, because the membrane has been thickened by a chronic otitis media. (3) When there is insufficient drainage for the pus, and there is danger of the extension of the inflammation to the antrum and mastoid. (4) When the pain is excessive and unrelieved by the hot douche, and the tension of the membrane is high, paracentesis may be performed simply for relief of the pain.—*Phila. Polycl.*, October 16, 1897. (From *Medical Age*, January, 1898.)

ROENTGEN RAYS AND FOREIGN BODIES IN THE EYE AND ORBIT.

Mr. Treacher Collins gave a description (in the Ophthalmological Society) of four cases in which this method had been applied. In none of them could the presence of a foreign body be certainly determined from the clinical appearances. In two of the cases the chip of steel was subsequently withdrawn by the introduction of an electro-magnet in the direction in which it had been ascertained to lie. The size of one of these bits of steel was practically the same as had been estimated previous

to its removal. In another case, the eye being quiet, and two months and a half having elapsed since the injury, operative procedure was not thought justifiable. In the remaining case, which was the first they had dealt with before they had obtained sufficient experience of the method, the foreign body was found to lie in the orbit when they thought it was lodged in the eyeball. Mr. Collins also mentioned three cases where the presence of a foreign body in the eye was suspected in which they had by means of the X rays been able to assure themselves none was there. In one of their patients, in whom a large number of exposures had been made, some loss of hair occurred a month afterwards from the temple which was directed nearest to the tube. (*British Medical Journal*, February 5, 1898.)

TRACHOMA TREATED WITH APPLICATIONS OF IODINE.

E. A. Nesnamoff (Charkow) has for three years employed solutions of iodine in liquid petroleum preparations or in glycerine in the treatment of various forms of trachoma. He claims that every form of the disease is curable by its persistent use. Not only are the granules absorbed and pannus cured, but even old scars of the lid are so altered that they no longer injure the cornea. If there is much secretion he uses the glycerine solutions, but, for the greater number of cases, prefers the petrolatum. The former mixes freely with the secretion; but the latter is more effective if the conjunctival surface has first been wiped with absorbent cotton. Commencing with the $\frac{1}{2}$ per cent. solution, the strength may be later increased even to 3 or 4 per cent. Applications are made daily, or less frequently, the lids being thoroughly everted and held open for a little time to prevent the iodine from injuring the cornea, or from being quickly neutralised by the secretion. Iodine is soluble to the extent of about $1\frac{1}{2}$ per cent. in either of the substances mentioned. If a stronger solution is desired it must be obtained by adding sufficient alcohol to the glycerine, or of ether to the petrolatum. Such solutions should be kept in well-stoppered bottles in the dark, and must be frequently renewed to maintain their strength.—*Centralblatt für praktische Augenheilkunde*, vol. xxi., No. 8.

[Many strong astringents and caustics have been demonstrated to possess such positive value in the treatment of trachoma that experiment with a new one is always in order; and the proposed method of applying iodine is distinctly superior to other methods that have been previously tried and found of little value.—ED.] (From Drs. Jackson and Schneideman's periscope in the *American Journal of Medical Science*, May, 1898.)

OBSTETRICS AND GYNÆCOLOGY.

APPENDICITIS AND PREGNANCY.

M. Pinard was able to collect 45 cases of appendicitis complicating pregnancy in which the diagnosis had been confirmed thirty times, during surgical intervention, and he applied himself to find out in these cases what special features appendicitis presented in the course of pregnancy. (1) He discovered that appendicitis threatens the pregnant woman during the whole course of gestation and for some time after confinement. (2) In the great majority of cases, the affection interrupts gestation, and the children born, although apparently healthy, succumb in a very short time from infection of the blood through the umbilical cord. It was only in cases of limited and encysted abscess that both mother and child escaped. All the symptoms of ordinary appendicitis were present, and although the diagnosis was difficult on account of the development of the uterus and the absence of information furnished by the touch, yet it was generally possible when a little attention was paid. As to treatment, it should be the same as for the uncomplicated cases, and the operation should be done as soon as possible. (Medical Press and Circular, March 30, 1898.)

CÆSAREAN SECTION.

There is no operation in obstetrics where decision plays a more conspicuous part in the prognosis than in Cæsarean section. When it is performed after the mother and child are exhausted the mortality is necessarily high; but the elective Cæsarean section, on the contrary, subjects the mother to about one risk—septic infection—while the child's chances are almost nothing. Faulty technique or sepsis has been the cause of such a high mortality in the past. To-day the death-rate has been lowered to about the same rate which accompanies difficult embryotomy. In 13 cases operated upon before labour had begun, ten women and thirteen children recovered. Two mothers died of sepsis and one of hemorrhage. Of six cases operated upon at the beginning of labour, six women and six children recovered. Of 12 cases, where the women had been in labour from two to six hours, ten mothers and eleven children survived. Of 18 cases where the mothers had been in labour from nine to twelve hours, eight mothers and thirteen children were saved. These statistics speak well for elective Cæsarean section. The figures of individual operators give a mortality from 0 to 10 per cent., and a saving among children of 90 to 95 per cent. (From Dr. Theodore C. Erb's paper in the Boston Medical and Surgical Journal, April 14, 1898.)

Cæsarean Section.—The Absolute Indication for.

In the *Centralblatt für Gynäkologie*, 1898, No. 3, Guerard draws attention to the measurement between the tuberosities of the ischia and its value as giving an indication for Cæsarean section. He was called to a patient in labour who had a kyphotic, funnel-shaped pelvis in which the distance between the tuberosities of the ischia was 4·7 cm. The pelvis was so much contracted that Cæsarean section was clearly indicated. The child was living and in good condition. The parents, however absolutely refused to allow the operation. Accordingly, under protest, craniotomy was done. It was impossible to extract the head without removing the individual bones. The clavicles were then cut, and the body of the child finally removed. The mother made a good recovery. After her convalescence the transverse diameter of her pelvic outlet was measured by introducing a pelvimeter within the birth-canal, and the original measurement was found nearly correct. The case is reported as an example of successful embryotomy in a highly-contracted pelvis. (*American Journal of Medical Science*, March, 1898.)

CANCER OF UTERUS DURING PREGNANCY.

Mittermaier (*Centralbl. f. Gynäk.*, Leipzig, 1898, No. 1) remarks that until lately it was thought necessary to wait for the complete involution of the uterus before performing total extirpation. But, as the result of improved technique and the tendency to rapid growth of cancer during the puerperium, Olshausen and Pehling specially advise that the operation be performed at once. Olshausen recommends that in cases of cancer of the cervix occurring during pregnancy, at the fifth or sixth month, after the escape of the amniotic fluid, the uterus, with placenta and foetus, should be removed by vaginal extirpation. In cases reaching the seventh month he advises vaginal Cæsarean section (after Dührssen), to be followed by vaginal total extirpation. Mittermaier records two cases. The first, a woman aged 47, who had miscarried at the sixth month, followed by high temperature; and as the posterior lip was found cancerous, the whole uterus was extirpated per vaginam. On account of the softness of the parts, and the ease with which the uterus could be pulled down to the vulva, the operation was not difficult. The second case, a woman aged 43, seven months pregnant, complicated with cancer of the cervix. The latter was dilated, child extracted, and then total extirpation performed. In both cases Mittermaier states that the operation was not more difficult than an ordinary vaginal hysterectomy. (From Dr. Haultain's periscope in the *Edinburgh Medical Journal*, March, 1898.)

CONTRACTED PELVIS.—The High Application of Forceps in.

In the *Archiv für Gynäkologie*, Band lv., Heft 1, 1898, Tóth contributes an extensive paper upon this subject, narrating the experiences of the staff of the obstetric clinic at Budapest. His cases number 44, and he reaches the following conclusions from his studies:—The high application of the forceps is not an especially dangerous procedure for mother or child. When the head presents it is much to be preferred to podalic version. The high application of forceps should always be tried before resorting to craniotomy in cases where version is not indicated. In pelves which are not highly contracted the forceps is to be preferred to version, because an effort to deliver with forceps does not prevent the physician from awaiting a spontaneous issue of the birth. The same thing is true in cases where the child is excessively large. Where, however, the high forceps does not succeed, craniotomy must be performed. If all the conditions are favourable, symphysiotomy may be tried. For this use of forceps, a long, well-made instrument is necessary, and of these Tarnier's has been found the best. (From Dr. E. P. Davis's periscope in the *American Journal of Medical Science*, May, 1898.)

CYSTOCELE.—Treatment of.

Success depends very much upon whether it is a primary or secondary cystocele, and on whether the uterus is truly prolapsed, or whether there is an elongation of the cervix associated with it as a cause or effect. In all cases one generally first tries to relieve with pessaries. One of the best forms of pessaries is an india-rubber Hodge, boat-shaped, with one limb behind the cervix, and the other end well tilted up and curved, or a sledge pessary, or Wells' pessary, or Galabin's. These are only satisfactory if there is a definite cervix to prevent the back limb slipping forwards, and therefore they usually fail. Ring pessaries rarely succeed. Some form of "cup and stem" pessary, such as Napier's or Cutter's with adjustable bands, may be tried where operation is negatived. They can be made to answer in most of the chronic cases of cystocele, but in young women their use involves great discomfort. We should always aim at keeping the uterus at a high level, and in an anteverted position. As regards operations, the old method of treating cystocele was by scarring the vaginal wall, and encouraging it to contract by cicatrisation. Then anterior colporrhaphy was introduced. This procedure was usually very unsatisfactory and temporary. Sometimes one can do good, in addition to an anterior colporrhaphy, by restoring a deficient perinæum at the same time, to act as a support to the anterior vaginal

wall, especially if we combine with it a posterior colporrhaphy to narrow the vagina. This prevents the cystocele from coming outside and enables a pessary to be worn. Lately I have been trying other means, and one of the best of them is to make a longitudinal incision along the anterior vaginal wall and strip off the bladder, as is done in anterior colpotomy. Two loose folds of vaginal tissue result, which can be everted and, instead of being cut off, raised up into a vertical ridge, by suturing it to a piece of perforated celluloid, prepared beforehand. A rigid wall is thus formed. This does not give way like the cicatrices in colporrhaphy, but really seems to be a better groundwork to resist further pressure. (From Dr. Amand Routh's paper in the *Clinical Journal*, January 26, 1898.)

DECIDUOMA MALIGNUM.

Dr. Hellier, at the Leeds and West Riding Medico-Chirurgical Society, showed the uterus and appendages from a case presenting the symptoms and appearances characteristic of the condition called deciduoma malignum; also drawings of the recent specimen and microscopic section of the primary and secondary growths. The patient, aged 39, died twenty weeks after an apparently normal confinement. Her main symptom was continuous hemorrhage and foetid discharge. Death resulted from septic pneumonia. There was malignant growth in the fundus uteri, broad ligament, and ovaries; perforation of uterus and rectum and secondary growths in peritoneum and lungs. [Microscopically the heart showed marked fatty degeneration.—E.F.T.] (*British Medical Journal*, May 7, 1898.)

DYSMENORRHŒA.—The Use of Manganese in.

Dr. Charles O'Donovan (*Medical News*, November 27, 1897) finds that most benefit is derived from this drug by unmarried women in whom there is a history of general malaise for some time before the flow begins, with pain which rapidly grows worse as the flow commences, and remains more or less severe during the first day. The question as to whether anæmia is present or not appears to have little bearing on the action of the drug. In several instances he says that he has found dysmenorrhœa of several years' standing to yield under this treatment; unfortunately in others the remedy was of little service, and he is unable to state why it should succeed so well in some and fail with others, but he is certain that a considerable number of cases may by its use be relieved to a degree that no other drug can approach. In his paper he gives detailed reports of several cases. He recommends its administration in pill form, beginning with one grain three times a day and gradually

increasing the quantity till three grains three times daily are taken. The drug should be commenced about the middle of the inter-menstrual period and continued till after menstruation for that period had ceased. This treatment should be continued for three or four months at least before the judgment of failure is pronounced. (From abstract in Montreal Medical Journal, February, 1898.)

ECLAMPSIA.—Veratrum Viride in.

Dr. Sloan has used this drug in four cases, three of which were examples of puerperal eclampsia. No convulsions appeared in any of the cases after the first dose of the drug, and, in every instance, the pulse diminished in frequency and in tension. I think the following deductions are justifiable from even so small a number of cases:—(1) That veratrum viride is a powerful or a dangerous drug, according to how it is used. (2) That it can be relied upon, if it is pure, to reduce the force and frequency of the pulse where these are abnormally high. (3) That it may prove of signal service as a preventive of eclampsia, in cases where such a calamity is threatening. (4) That it is safe to predict that the pulse will fall much lower than it has done fifteen minutes after an injection. I shall therefore, in future, allow thirty minutes to pass before repeating the dose; and shall, as a rule, give no more than two injections within two hours. (From Dr. Sloan's paper in the Glasgow Medical Journal, April, 1898, p. 300.)

EMBRYOTOMY.—The Antiseptic Performance of.

In the *Centralblatt für Gynäkologie*, November 29, 1897, Kosminski describes his method of performing embryotomy with the aid of specula, which protect the walls of the cervix and vagina from contact with hands or instruments. He has devised large blades, which form a speculum, each shaped somewhat like a spoon, and making it almost impossible to infect or injure the cervix or vagina. In craniotomy, having introduced his specula, he grasps the scalp with tenaculum forceps, incises it, and applies the perforator or trephine directly by means of sight. He is very careful to remove the brain completely and to remove all pieces of bone without wounding the mother's tissues. He urges that it is much safer to perform craniotomy guided by vision than in the usual way. After the head has been emptied the specula are removed and delivery accomplished by the cranioclast. He describes five cases in which the operation was easily and successfully performed. He has also employed this method in cases of transverse positions, in which decapitation and embryotomy were required. He has found great advantage in being able to see the tissues operated upon,

and has been able to protect the mother especially from injury by the foetal ribs. He reports four cases of successful embryotomy by this method. (*American Journal of Medical Science*, January, 1898.)

ENDOMETRIUM, DISEASES OF.

Dr. Arnold Lea says that the use of the microscope in differentiating simple inflammatory, benign, and malignant growths, is of great value; carcinoma is easily recognised, but malignant adenoma may closely simulate benign growths, the chief points of distinction being that (1) many alveoli may be completely filled with epithelial cells; (2) the glandular spaces are very numerous, much branched, and are often arranged in parallel columns; (3) the amount removed by the curette is more abundant; and (4) the growth infiltrates the muscular coat, so that in examining curetted fragments unstriped muscular fibre may often be recognised. In some few doubtful cases microscopic evidence may need to be supplemented by clinical signs before a diagnosis can be made. (*The Lancet*, April 30, 1898.)

ERGOT AND QUININE.

The author draws the following conclusions:—(1) Ergot is contra-indicated during labour, but should postpartum hemorrhage occur it is useful in large doses. (2) Ergot is useful in repeated small doses where abortion is threatened, hemorrhage occurring without pains, and the os uteri being closed. Further, it is useful in small doses in subinvolution of the uterus. (3) Quinine, 8 grs., followed by 4 grs. in an hour, and repeated after another hour, if required, should be given, wherever there is delay in the labour due to exhaustion of the uterine muscles, provided the delay is not caused by obstruction in the passages or deviation from the normal in the foetus. In these latter cases, or where quinine fails to produce sufficient uterine contractions, forceps should be applied or other means of delivery resorted to. (From Dr. Owen C. Mackness's paper in the *Edinburgh Medical Journal*, May, 1898.)

FIBROIDS.—Treatment of.

(By Dr. Montgomery, in the *International Journal for Surgery*, January, 1898.) In young women we would advocate the enucleation of fibroid growths, even so large as to require the abdomen to be opened, whenever the condition of the ovaries and tubes presents no barrier to the hope for complete restoration of the functions of the pelvic organs. The capsule of the tumour should be incised, and the enucleation accomplished with the use of the metal dissector; bleeding vessels should be secured with hæmostats, and where the uterus is occupied by

a number of growths, the cavity should be temporarily packed with gauze held in place by a suture, otherwise it may become lost in the abdomen and be overlooked. Mural or even intramural tumours should not be considered as contraindicating this method of procedure. In such cases, however, it may be a question as to the wisdom of drainage by gauze through the vagina. Such practice would necessitate previous sterilisation of the vagina. After the enucleation of the growths the cavity should be carefully dried, where the uterine cavity has been entered, the mucous surfaces adjusted and the walls apposed, using for this purpose sterilised catgut. (From abstract in *Therapeutic Gazette*, February 15, 1898.)

FUNIS.—Prolapse of.

I should like to call, as rapidly as possible, to your attention a few grave emergencies which pertain to the foetus. The first is funic prolapse. So dangerous is this condition to the child, so imminently fatal in its effect, that in many cases before you can do much the foetus will have perished. Should extraction of a child dead under these conditions prove a difficult measure, or materially dangerous to the mother, it would be wise to deliver by perforation and cranioclast, since it is far easier to deliver by such interference than to extract a child with an unopened skull. But where a foetus is alive it has been a rather dreary experience, speaking from a personal standpoint, after replacing the cord by the usual method, to find that after all careful manipulation a dead child has been extracted. You can not tell when you have thoroughly replaced the cord, and as likely as not a small knuckle is nipped between the foetal head and the bony pelvis, and in this wise the foetus has been sacrificed. Accordingly, it has been customary, while waiting for assistance, to place the woman either in the Trendelenburg posture or in the knee-chest position to prevent pressure. A combined version has been the operation of election, and, in the presence of a dilated or dilatable os, an immediate extraction. These measures have given us the best results. (From Dr. S. Marx's paper in the *New York Medical Journal*, February 5, 1898.)

GESTATION, ECTOPIC.

The points which I wish to emphasise are as follows :—(1) Early ectopic pregnancy may be diagnosed before rupture has occurred, provided an opportunity to make a careful examination be afforded. (2) In the differentiation of early ectopic pregnancy from conditions which simulate it, a painstaking examination *per vaginam* and *per rectum*, under anæsthesia, offers the best chance of making a correct diagnosis. (3) The use of the

uterine sound as a means of diagnosis may be permissible in cases of grave doubt as to whether the pregnancy is intra- or extra-uterine; but its indiscriminate employment cannot be too strongly condemned. (4) In case of grave doubt as to whether or not early ectopic pregnancy be present, but when the presumption is strongly in favour of its existence, exploratory abdominal section is not only permissible, but imperative. (5) Abdominal possesses many advantages over vaginal section, and should, therefore, always be the operation of election in this class of cases. (6) All cases of early ectopic pregnancy, except those in which intraligamentous rupture has occurred, should be operated upon as soon as the diagnosis is made. Procrastination may mean death to the patient. (From Dr. Balleray's paper in the *Medical News*, January 29, 1898.)

Gestation, Ectopic.

(By Chas. J. Cullingworth.) It is commonly taught that pelvic hæmatocele is usually due to rupture of a tubal gestation. This, in the author's experience, is erroneous. The irregular hemorrhages which are of great value in diagnosis are due to two causes:—First, the irritation of the presence of a tubal mole in a part of the tube that has been entirely cut off from its communication with the uterus; second, the efforts of the uterus to dislodge and expel. There is a peculiarity about these hemorrhages that, as far as the speaker knows, has hitherto received no attention. The blood is almost invariably dark in colour, moderate in amount, thickish in consistence, and steady in its rate of flow. The condition above all others for which early ectopic gestation with tubal mole is likely to be mistaken is a threatened or incomplete uterine abortion. The two important points in distinguishing the one condition from the other are:—(1) The presence or otherwise of an abnormal swelling in the situation of one of the Fallopian tubes; (2) the character of the blood discharged *per vaginam*. When the gestation has proceeded to a later stage, the presence of some of the ordinary signs of early pregnancy will usually come to our aid—missed menstruation, morning sickness, and breast-symptoms. The diagnosis of tubal pregnancy with hemorrhage so profuse that the blood becomes at once diffused into the peritoneal cavity is based chiefly on the history and on the alarming character of the symptoms. It is in such cases that the pallor is extreme, the pain intense, the tenderness excruciating, and the collapse sudden and severe. The author has no hesitation in proclaiming his strong conviction that, with the exception of some few cases of very early tubal abortion accompanied with hæmatocele, the proper treatment is to operate at once in every case in which the diagnosis of ectopic

gestation has been established. (From abstract in *Medical Age*, January 25, 1898.)

GLYCERINE.—Alarming Symptoms after Intrauterine Injection of.

(From Dr. Veitch's paper.) In the early part of the fifth month I decided to empty the uterus. The sound was passed on two occasions, but failed to rupture the membranes or excite uterine action. A bougie introduced and allowed to remain within the uterus eight hours likewise failed. Three ounces of pure glycerine were then injected through a No. 12 Chiene's metal catheter, introduced as far as the fundus. On the withdrawal of the catheter glycerine flowed freely from the vulva, indicating free drainage. A few minutes later the patient, in response to inquiry, stated that she had no pain, but a queer, sickening sensation in the abdomen. I left, promising to return within an hour. On my return I found the patient in an intense rigor, and was informed that the rigor had lasted forty minutes, having come on just after I had left. The face was cyanosed and wore a frightened expression. The teeth chattered. The surface of the body was cold; the pulse rate 45. There was no pain. One-third of a grain of morphia, an ounce of brandy, and a wineglass of hot water were at once administered and heat applied externally. Ten minutes later the patient vomited, and I had the pleasure of seeing the cyanosis pass off and the face clear. The brandy and morphia were repeated and the rigor soon ceased. I then left. One hour later I found the patient resting quietly, free from pain, and the os dilated to the size of a florin. A little later strong pains set in, and soon afterwards a five months' ovum was expelled entire. The placenta exhibited signs of old and recent hemorrhage. Recovery was uninterrupted, and at no time was there any suspicion of septic mischief. The symptoms were no doubt due to shock, caused by the irritating action of glycerine on the endometrium. That over-distension of the uterus played no part in its production is evident, for the method of injection permitted no accumulation within the uterine cavity. (*Edinburgh Medical Journal*, January, 1898.)

HEART DISEASE AND PREGNANCY.

For a long time women suffering from heart disease have been advised not to marry, or in any case to have no children, or if they have children not to nurse them. Do not believe such nonsense; look at the facts. You see every day women with heart disease become mothers without any inconvenience. We have not, consequently, the right to forbid a woman to marry. Your prognosis should be influenced by the state of the kidney.

The treatment is extremely simple. Absolute rest, milk diet after the fourth month, and from time to time digitalis in infusion. In certain cardiac patients rest at night is impossible; to remedy this trouble I have found nothing better than from two to four grains of chloralosis; that dose, however, should never be exceeded. But you are called to a woman suffering from gravido-cardiac accidents; what should be your line of conduct? Rapid evacuation of the uterus and blood-letting. Such is the treatment. You should not hesitate to bleed when in presence of acute œdema of the lung. (From Professor Pinard's paper in the *Medical Press and Circular*, February 2, 1898.)

LABOUR AND OVARIAN TUMOURS IN THE PELVIS.

In opening the adjourned discussion in the Obstetrical Society on Dr. McKerron's paper on this subject, Dr. Herbert Spencer referred to a case of ovariectomy during labour which was obstructed by an ovarian dermoid incarcerated in the pelvis. In the case recorded the patient, aged 20, had had one dead child previously without difficulty; with the second child the labour was obstructed by an ovarian dermoid weighing 16 oz. incarcerated in the pelvis. As the tumour could not be pushed up, laparotomy was performed, the uterus withdrawn from the abdomen, the tumour removed, and the child delivered by forceps applied in the dorsal position. Mother and child recovered. In the treatment of ovarian tumour obstructing labour, the author thought that the tumour should be pushed out of the pelvis, if possible, but discarded version, forceps, craniotomy, and simple incision or tapping of the tumour, on account of their danger. Cæsarean section would be very rarely necessary if the uterus were withdrawn from the abdomen. The author discussed the merits of vaginal and abdominal ovariectomy, and considered that, on the whole, the latter was the preferable operation. Dr. Herbert Spencer also showed an ovarian dermoid tumour, which becoming incarcerated in the pelvis obstructed labour. The tumour was pushed up out of the pelvis under chloroform, the child delivered by forceps, and ovariectomy performed seven months later. Mother and child recovered. A skiagraph of the tumour was also exhibited. (*British Medical Journal*, January 15, 1898.)

METRORRHAGIA.—Treatment of.

Connery (*Intercollegiate Medical Journal*, December, 1897) speaks of the importance of an exact knowledge of the cause of metrorrhagia before treatment is attempted. He calls attention to the fact that cardiac, hepatic, or renal diseases have frequently produced metrorrhagia, although uterine disorder has been

absent or slight. In such cases diaphoretic remedies should be given, according to the condition of the patient. Reliable remedies for checking hemorrhage are few. *Hydrastis canadensis* is of value in many cases, and is too little known. Quinine and strychnine administered alone or in combination will often arrest hemorrhage in cases associated with debility. Absolute rest in a horizontal position and vaginal douches with the water at a temperature of 110° to 115° F., will often suffice to control hemorrhage. If in spite of treatment the bleeding continues without assignable cause, the cavity of the uterus should be explored; for a bleeding polyp or submucous fibroid has been known to produce death by loss of blood, although in itself it may be a comparatively trivial affair. (Medical News, January 29, 1898.)

OVARIAN TUMOURS.

In small ovarian tumours there is much uncertainty as to the significance of hemorrhages. Pozzi has noted menorrhagia in cases of cysts impacted in the pelvis. It was absent in one of my cases, which was incarcerated in Douglas's pouch. Coe and Tait note the association of menorrhagia with small ovarian cysts. Davenport comments on the observations of these three observers, but admits that in his ten cases the symptom was not invariably present; I found it specified in six, and following no apparent rule. Thus menstruation was normal in his third case, where the cyst had to be enucleated, whilst it was scanty in the second, where there was a small dermoid as in one of my cases. On the other hand, evidence as to the state of the uterus is defective in three of Davenport's cases. I agreed with his opinion that adhesion of an ovarian tumour to the uterus is often accompanied by menorrhagia. In my six cases, which I have carefully selected, there was true menorrhagia in two, but the symptom was traceable to a distinct cause other than ovarian enlargement. In one there was slight increase in the catamenial flow, but this was not evidently due to the myoma which existed. In one only the period was absolutely regular; the tumour was a dermoid. In two it was scanty, and in one of these it must be remembered there clearly had been inflammatory changes in the ovary, so generally supposed to be indicated by menorrhagia. Turning to pain, it was present in all my cases, but the cause was not uniform. There is at present no special symptom nor group of symptoms by which a small ovarian tumour in the pelvis can be distinguished from an inflamed ovary. The tumour may be painful to touch, whilst a prolapsed ovary enlarged from inflammation may be almost free from tenderness. It is only careful clinical research that can offer us any chance of solving the problem. The patient

must be carefully watched, and the effects of medication duly observed. When rest causes pain to diminish, whilst the pelvic swelling increases, the evidence that the ovary is cystic and not inflamed will be strong, yet, as my cases show, not conclusive. (From Mr. Alban Doran's paper in the *Edinburgh Medical Journal*, May, 1898.)

OVARIES.—Remote Results of Removal of Both.

(By B. S. Dunn, M.D., Los Angeles, Cal.). In careful observations made upon 100 cases operated upon in the Broca and St. Louis Hospitals, in Paris, Dunn found that where the women had prematurely lost both ovaries 78 per cent. subsequently suffered a notable loss of memory; 60 per cent. were troubled with flashes of heat and vertigo, 50 per cent. confessed to a change in their character, having become more irritable, less patient, and some of them so changed as to give way to violent and irresponsible fits of temper, 42 per cent. suffered more or less from mental depression, and 10 per cent. were so depressed as to verge upon melancholia. In 75 per cent. there was a diminution in sexual desire, and some of these claimed they experienced no sexual pleasure, 13 per cent. were not relieved of the pain from which they suffered, 35 per cent. increased in weight, and some became abnormally fat. Some complained of a diminution in the power of vision; 12 per cent. noted a change in the tone of their voice to a heavier, more masculine quality. Some 15 per cent. suffered from irregular attacks of minor skin affection, 25 per cent. had severe headaches, as a rule, increasing in intensity at the menstrual period. Equally as many complained of nightmare, more or less constant, while about 5 per cent. suffered from insomnia. In a few cases there existed a sexual hyperexcitability not present prior to the castration. He particularly noted a few cases presenting gastric reflexes where, without any premonitory symptoms or apparent cause, the stomach would reject food or refuse to prepare it for intestinal digestion, and the consequent distress following the fermentation compelled the patient to seek relief. It should be noted that usually these troubles were more marked in women under thirty or thirty-five years of age.—*American Journal of Surgery and Gynæcology*, September, 1897. (*Annals of Surgery*, January, 1898.)

OVUM, BLIGHTED.

Dr. Wear described, before the Leeds and West Riding Medico-Chirurgical Society, and showed specimens of two cases of blighted ovum due to hemorrhage. One patient, aged 19, had amenorrhœa for five months, and the other, a multipara, aged

46, amenorrhœa for seven months. In each case the ovum consisted of an early placenta two and a half inches long, covered in by the unruptured membrane, containing a shrunken and shrivelled embryo measuring five-eighths of an inch in length. The embryos, which were attached to their cords, had reached about the end of the second and middle of the third month respectively. The fœtal surfaces of the placenta were studded with numerous bosses or hemorrhagic elevations, dark purplish in colour and firm in consistency. The maternal surfaces were a dirty drab colour and offensive in odour, and had evidently been separated some time. Retention within the uterus had been about three or four months; no history of syphilis in either case. The abortion in the first case was attributed to a shock. (*British Medical Journal*, March 26, 1898.)

PAIN, INTER-MENSTRUAL.

Dr. Herman agreed that the term inter-menstrual dysmenorrhœa was altogether inapplicable, and suggested the term inter-menstrual pain. He pointed out that it often occurred in constant and regular relationship to the menstrual periods, adding that there was often a history of present or past disease of the appendages. He thought the pain was due to painful ovulation, which in these cases did not coincide with menstruation. He expressed himself as sceptical with regard to the alleged discharge of the contents of dilated Fallopian tubes *via* the uterus, and he pointed out that when, during an operation the dilated tube was lifted up, the fluid showed no tendency to escape. He referred to the case of a woman who had pain of the character of spasmodic uterine contraction, independently of menstruation, which was aggravated by ergot and to some extent relieved by bromides. It was cured by dilatation of the cervix. The pain generally complained of, however, was usually ovarian, viz., a dull, aching pain, not paroxysmal, and this, he thought, could be explained, on Priestley's hypothesis of difficult ovulation. (*Medical Press and Circular*, March 9, 1898.)

PERINÆUM.—Relaxation of.

(From Dr. Duncan J. Mackenzie's paper.) Probably the best way is for the palm of the hand to be laid on the perinæum, while the thumb and forefinger lie one on each side of the opening through which the head protrudes. In doing this, the operator must be very careful not to let the thumb and forefinger slide further apart on the slopes of the head, and thus drag upon the fourchette and posterior commissure. When the forehead is passing, he must be careful to relax his pressure, so as not to force the perinæal margin too suddenly over it. The forefinger may be used occasionally to

ascertain more accurately the position and extent of the exposed part of the head. If the fingers, instead of the palm, have to be laid on the perinæum, they should all be brought close together. They do not, however, form so smooth a surface as the other. If the thighs of the patient be drawn well up to her abdomen and separated, not only will the tissues of the perinæum be relaxed, but the accoucheur will find it easier, having a larger surface to lay his hand flat upon. The hand and arm of the operator should, as far as possible, be in a line with the antero-posterior diameter of the perinæum and his body should be in its plane. If this be not so, the hand of the operator being more or less acutely bent at the wrist, excessive upward pressure is almost certain to take place involuntarily, and the pressure forward is not direct. To attain this position, the accoucheur must sit well back, and as close as possible to the couch on which the patient lies. He should also sit on a chair of just sufficient height to bring his arm in a line with the cleft between his patient's thighs. (Edinburgh Medical Journal, November, 1897.)

PERITONITIS, DIFFUSE, OF PELVIC ORIGIN.— Treatment of.

Winckel (*Centralblatt für Gynäkologie*, No. 38, 1897) believes that the surgical treatment of diffuse peritonitis originating in disease of the genital tract is capable of more extended application than formerly. It is probable that from 70 to 80 per cent. of cases of tubercular peritonitis are curable by abdominal section, although five years should elapse without recurrence before the cure can be called positive. Removal of the exudate, and improvement in the circulation and respiration are factors in effecting a cure; the degree in which this is influenced by the admission of air, light, and chemical agents is still problematical. It is doubtful whether irrigation of the peritoneal cavity is desirable; at least only sterilised water should be used for this purpose. Affected tubes and ovaries should be removed only when this can be done easily. Drainage is unnecessary. Vaginal section is not applicable to these cases. In peritonitis of gonorrhœal origin the tubes should be extirpated, the ovaries resected, and the peritoneal cavity simply sponged out, not irrigated. Drainage is not necessary unless a pyosalpinx or secondary abscess has ruptured into the peritoneal cavity, when the vagina offers the best route. In post-operative peritonitis the wound is partly reopened and the pus is thoroughly evacuated without irrigation. Drainage is indispensable, through the wound, or per vaginam, if there is a collection in Douglas's pouch. Surgical interference is indicated in diffuse puerperal peritonitis when the fact of

suppuration can be established. About thirty cases have been reported, with a mortality of 80 per cent., as opposed to 73 per cent. with expectant treatment. Most of the recoveries were in cases of from one to two months' standing, acute cases being most unfavourable. A free abdominal incision should be made, with subsequent irrigation and drainage. The adnexa should be removed only if they form pus-foci. Vaginal hysterectomy is permissible in desperate cases alone. Diffuse peritonitis due to rupture and suppuration of cysts, abscesses and ectopic sacs, and torsion of the pedicle is nearly always fatal without prompt interference. Drainage is to be employed only when pus-foci remain. (*American Journal of Medical Science*, January, 1898.)

PREGNANCY.—Malignant Disease in.

In the *Scottish Medical and Surgical Journal*, 1898, No. 2, Fothergill reports the case of a woman, aged 30 years, who died of a malignant pelvic growth. There were no metastases. The growth was composed of alveoli separated by bands of fibrous tissue. It was a malignant adenoma arising from the glands of the cervix during pregnancy. He describes also a case in which a foreign growth involved the labia and also the pelvic organs. This was found to be a round-celled sarcoma. The history given by the patient was that she was well until her last confinement, when she first noticed an offensive discharge. On further investigation, the physician who delivered her stated that at labour malignant disease was so far advanced that it was necessary to deliver by craniotomy and afterward sew up the cervix. A third case is described in which tissue removed from the uterus proved to be round-celled sarcoma resembling very closely a syncytioma, occurring in a uterus which was fibroid. In each of these cases it would have been easy to arrive at the conclusion that these tumours were syncytial, and directly derived from the uterine decidua. Fothergill urges that the greatest care be taken in diagnosis that errors may be avoided. (*American Journal of Medical Science*, April, 1898.)

PRURITUS VULVÆ DURING PREGNANCY.

(By M. Fieux, *Gazette de Science Médicale de Bordeaux*, Nov., 1897.) The patient was seized during the seventh month of pregnancy with intolerable itching of the vulva. She was unable to eat or sleep, and became extremely irritable. Fifteen days later she consulted the writer. The genital organs presented no special lesion beyond the marks of frequent scratching with the nails. There was an absence of gonorrhœal infection or vaginitis. No worms or pediculi. Various lotions and ointments were tried without affording any relief. It was then determined to employ the method of Ruge, which consists

in a minute and careful application of antiseptics to the genital organs. The vagina and vulva were thoroughly scrubbed with soap, and afterwards a strong solution of perchloride of mercury was thoroughly applied to the vagina and vulval orifice. This treatment applied once succeeded in completely and permanently curing the pruritus. Ruge himself often repeats this treatment several times in a case, and follows it up by carbolic vaseline (1:20) inunction. It is evident, then, from this observation and others that cases of vulvar pruritus without any obvious lesion may be cured by making the vagina and vulva aseptic, and shows that these cases have a bacterial origin. It is, indeed, doubtful if a purely nervous form of pruritus can be said to exist. (Dr. A. W. W. Lea's abstract in the *Medical Chronicle*, March, 1898.)

PUERPERIUM.—Sudden Death in.

(1) Pulmonary embolism is the cause of death in most of these cases. (2) It is rare, but so shocks a community when it occurs that it is advisable to take every precaution to guard against it. (3) Phlebitis, varicose veins, prolonged labour, hemorrhage, anæmia, sepsis, cancer, syphilis, &c., predispose to its production. (4) In the presence of peripheral thrombosis, &c., absolute rest must be enjoined, especially between the second and third weeks of the puerperium, as this is the disintegrating period of the clots. The danger should also be explicitly pointed out to both patient and attendants, thus insuring to some extent a healthy co-operation. (5) The extreme changes in the blood usually ascribed to pregnancy and the puerperium are erroneous, and not corroborated by modern investigation. (6) Sudden death from air embolism in the puerperium is doubtful from physiological, pathological, and rational standpoints. (7) Shock is both a direct and indirect cause of death in the puerperium, and should be guarded against. (8) Organic heart affections, kidney trouble, &c., are capable of producing death at any time, and should not be overlooked in the puerperium. (Galtman, *Medical Record*, November 27, 1897.)

SALPINGITIS, ACUTE.—Treatment of.

(By William P. Carr, M.D., Washington.) Thorough systematic treatment of acute salpingitis in the early stages will result in resolution in a large majority of cases. Failing in this, no attempt should be made to perform a radical operation during the acute state, over which the patient should be tided by palliative measures, and then if necessary, a radical operation may be done while the patient is in a chronic condition without septic fever. The treatment of acute salpingitis is by:—(1) Absolute rest. (2) Good nursing. (3) The administration of

nourishing and easily digestible food ; also of digestive stimulants, as hydrochloric acid, pepsin and strychnia. The bowels must be kept well moved and the skin clean. (4) Local treatment *per vaginam*. Thorough uterine drainage should be at once established and maintained, preferably by the outer bridge drainage tube. Curetting with a blunt curette may be advisable in cases of abundant or offensive discharge, or if the uterus contain retained placental tissue. Hot vaginal douches are effective in relieving pain. (5) Hot fomentations or turpentine stupes to the abdomen. If the inflammation increase and pus is suspected, it should be punctured and drained from the vagina simply as a palliative measure. Only if it is absolutely necessary to save life should a radical operation be done during the acute stage. (British Gynæcological Journal, February, 1898.)

SEPTICÆMIA, PUERPERAL.—Prevention and Treatment of.

(By Dr. A. L. Galabin, *The Clinical Journal*, November 17, 1897). Of antiseptic precautions, the most important are those which aim at preventing the entrance of micro-organisms into the genital canal. Hands and non-metallic instruments should be first cleansed with soap and water and then immersed for a time in 1 in 1,000 corrosive sublimate; for metallic instruments, lysol 1 in 50, or formaline 1 in 300, or carbolic acid should be used. For a lubricant, a glycerine solution of 1 in 1,000 perchloride or lano-creoline are the best materials. The vulva should be carefully cleansed and afterwards swabbed with 1 in 2,000 perchloride. (It is doubtful whether any procedure will disinfect the vulva unless the parts are first shaved.) As regards antiseptic douches in private practice, there is much difference of opinion. The single douche of 1 in 2,000 immediately after delivery should always be practised, but it is doubtful whether the douche need be continued during the puerperium. In the New York Lying-in Hospital the douche has been abandoned, even at the end of labour, if normal; but minute precautions are used in applying a bandage to the vulva, with a pad soaked in 1 per cent. creoline emulsion, which is changed every six hours. The death rate in this institution from all causes is four per thousand. The author in his own practice retains the use of the douche, and uses generally the iodide of mercury 1 in 4,000. This salt is free from the risk of mercurial poisoning and is conveniently carried in tabloids, and does not precipitate with albumen. As an alternative, 1 per cent. creoline emulsion, or formaline 1 in 500 to 1 in 1,000, are recommended. (From abstract in *Treatment*, January 13, 1898.)

SOMATOSE AS A GALACTAGOGUE.

Dr. Georg Joachim, of Berlin (*Centralbl. für inn. Medicin*, March 12, 1898), finds that in a great many cases the preparation does exert an influence upon the secretion of milk, increasing its amount and improving its quality in favourable cases. Joachim declares, however, that he does not believe that somatose has any specific action on the breast. He quotes Drew's statement to the effect that the galactagogue effect of somatose cannot be dependent merely upon its sharpening the appetite and raising the nutrition, for after it has been administered for a few days, and its use has then been discontinued, a falling off is observed in both the quantity and the quality of the milk, although the appetite and the nutrition still remain excellent. Joachim says that his experiments do not bear out this statement; on the contrary, he has observed a good effect on lactation only in cases in which the appetite was improved and the patient's general condition made better. In women whose general health is not benefited by the use of the preparation he has found that the mammary secretion remained unaffected. Consequently, he says, the galactagogue action is not to be expected in all cases; in the majority, however, it is, for in most instances somatose influences the general condition in an extraordinarily favourable way. He thinks it would be interesting to ascertain if the administration of somatose during the last few months of gestation would increase the secretion of milk on the birth of the child. (From a leading article in the *New York Medical Journal*, March 26, 1898.)

UTERI, OPERATIONS FOR PROLAPSUS.

Sanger (*Centralblatt für Gynäkologie*, 1898, No. 2) in an elaborate paper on this subject describes an operation which he has practised with success. A suture is introduced just behind the portio in the median line of the posterior vaginal wall. After thorough dilatation of the sphincter ani, the left forefinger (protected with a rubber cot) is introduced into the anus and inverts the recto-vaginal septum as much as possible. A vertical incision is made in the posterior vaginal wall with a scalpel, and crescentic, or V-shaped, flaps are dissected off from its lower end with scissors, their size varying with the amount of redundant tissue. While these flaps are held apart with forceps, the upper edges of the wound are detached in the same manner. When the peritoneum is reached it is carefully pushed upward with the finger or a gauze-pad; the rectum is separated with the same care. The edges of the levator ani are also detached as low down as the vulva. The flaps are now cut away, bleeding vessels being caught with forceps. The denuded surface resembles that made in Hegar's

operation, except that it extends higher and also approaches nearer to the anus, and extends laterally into the para-vaginal connective tissue. The upper sutures (silk) are passed in the usual manner, buried catgut being used if there is an extensive rectocele. Toward the lower end of the wound the vaginal edges alone are included in the sutures. The results of this operation, when properly performed, have been entirely satisfactory. (*American Journal of Medical Science*, April, 1898.)

UTERUS, AN UNFORTUNATE RESULT OF STEAMING THE.

In the *Centralblatt für Gynäkologie* for February 5, Baruch, an assistant physician in Czempin's private gynæcological clinic, in Berlin, reports a case of atrophy of the uterus with occlusion of the cervical canal and apparently of the whole uterine cavity—in short a useless organ in a woman only 27 years old—imputed to a single intra-uterine application of steam for the purpose of checking puerperal hemorrhage, which it did promptly. (*New York Medical Journal*, February 19, 1898.)



Medicine.

GENERAL MEDICINE AND THERAPEUTICS.

ART. I.—THE TREATMENT OF TYPHOID FEVER.

By H. A. HARE, M.D.,

Professor of Therapeutics and Materia Medica in the Jefferson
Medical College, Philadelphia.

[The following is taken from Drs. Hare and Holder's paper on "The real value of the Brand Bath in Typhoid Fever" :]

One of us (Dr. Hare) has used cold sponging in a more or less active form for the past ten years in his hospital wards whenever it was needed, and has rarely if ever used the bath. His results in St. Agnes and the Jefferson Hospitals suggest that the following rules be laid down for the treatment of typhoid fever cases :—(1) When admitted early in the disease, with constipation or moderate diarrhoea, the physician should give a full dose of calomel in divided doses in order to stimulate the liver and antisepticise the bowel with bile. (2) Control the fever when it reaches 102° F. by sponging. The patient being stripped and laid on a rubber sheet or blanket over such a sheet, he is to be sponged with water adapted in its temperature to his needs, and it is to be remembered the rapid application of a low temperature is more refreshing than the prolonged application of a higher temperature (Baruch). The chief advantage of cold sponge lies in the shock and reaction. This is better obtained by the use of ice sponging than by the bath. The patient's surface is always bright red in ice sponging, often blue in the bath, and that the fever is not the chief danger in the case renders the fact that as great a reduction from the sponge is not reached as from the bath of little importance except in hyperpyrexia. Shattuck tells us that he has found no marked or constant difference in the antipyretic value of cold sponging at 60° for twenty minutes, the cold pack at 60° for twenty minutes, or the cold bath at 70° for ten to fifteen minutes. Finally, if this does not bring the temperature down to 100·5° or 101° in twenty minutes resort should be had to the tub. It is essential when the sponging is used that more of it be applied to the back than the front of the body, for at

the back the great muscles and thick skin retain the heat as a reservoir, which is not cooled if only the front of the body is sponged. Further, the posterior surfaces are the ones apt to be congested and sore from the dorsal decubitus, and therefore need the stimulant effect of the bath, as do the kidneys and other deeply situated organs. That this treatment is of value is shown by the marked redness of the skin, the improvement of the circulation and respiration, and the cleared mind. That it increases leucocytosis is proved by the studies made in my wards by Dr. Holder, my co-labourer in this paper. (3) It is advisable not only to use friction in a light form, but to use moderately active massage with the same objects in view as when the rest cure is undertaken, for the proper treatment of typhoid is a modified rest cure. We are firmly convinced that by this means bed-sores, local congestions and effusions, œdematous swellings, peripheral nerve pains, and muscular feebleness will be largely decreased, and Pospischi has shown that mechanical irritation of the skin is capable of increasing heat loss 95 per cent. (4) In nearly all cases give more nourishment than the average typhoid patient has usually had in the past. Attention has recently been forcibly called to this necessity by Shattuck and by one of us in the editorial pages of the *Therapeutic Gazette*. With the exception of broths (which are culture media for the bacillus of typhoid) and meats, almost any article easy of digestion should be allowed, as one or two or more lightly boiled eggs, corn-starch, arrowroot, &c. (5) Use stimulants in carefully graduated doses whenever the circulation needs them, particularly alcohol. Even the cold bath enthusiasts give whisky to overcome the depression they often produce. Beyond these directions each case should be treated for the symptoms which arise from time to time. Let the physician be a watchman constantly and a therapist or hydrotherapist only as necessity arises.—*Therapeutic Gazette*, March 15, 1898.

2.—TYPHOID FEVER IN THE AGED.

By MORRIS MANGES, A.M., M.D.,

Assistant Visiting Physician, Mount Sinai Hospital, New York.

[The following is taken from Dr. Manges' paper. The details of cases and other parts have been omitted :]

The current belief in the profession would lead one to assume that typhoid fever is a very rare occurrence in the aged. This opinion is certainly warranted by the statements to be found in the text-books, even those of the most recent date. The fact that during the present year 5 cases, all in persons over sixty

years of age, have come under my observation, leads me to believe not only that typhoid fever is not an infrequent event among the aged, but that its presence often is overlooked. Three of these cases were typical in their course; the other two, however, presented the clinical picture of pneumonia. Attention has also been called to the fact that these senile cases are often marked by an insidious onset, by vagueness of the usual symptoms, and by a marked and increasing asthenia. These features, combined with the current belief that the disease is so exceptional in the aged, render it very possible that it is occasionally mistaken for other conditions. The most striking corroboration of this contention is furnished by the statistics of the New York Board of Health, which have been most courteously placed at my disposal by Dr. Tracy.

When it is noted that this report includes only the fatal cases, then the actual number of cases of this disease which have occurred among the aged in this city during the past ten years is quite surprising. The percentage, as calculated from this table of 3,644 deaths, would be 11·3 per cent. for the forty-fifth to the sixty-fifth years (414 deaths), and 2·6 per cent. for sixty-five and over (96 deaths). The total percentage of deaths in persons over forty-five years is 14.

Symptomatology.—In quite a large number of cases the symptoms differ in no wise from the ordinary course of this disease. In others, however, they are different, following no regular type. The onset is insidious, resembling some simple gastric or intestinal disturbance. The typical headache is often absent; epistaxis is infrequent; the fever is less marked and is very irregular in its course. Subnormal temperatures are not infrequent. The roseola is frequently absent, or, if it is present, is very scanty. The abdominal symptoms are not pronounced; the enlargement of the spleen is either slight or it may be wanting. Boy-Tessier calls attention to the fact that the abdomen may become distended owing to the senile relaxation of the tissues. Severe hemorrhages from the bowels are common. Perforations of the intestines have also been reported. The pulmonary symptoms are always pronounced, the bronchitis is always marked, while congestion, hypostasis, and pneumonia are very common and often lead to faulty diagnoses.

Boy-Tessier believes that these pulmonary conditions are possibly dependent more upon infarction and atelectasis than upon hepatisation. Nephritis is of frequent occurrence. Asthenia is always a marked feature; the patients look very ill—in fact, more so than the symptoms present would seem to warrant. The heart action is always poor and the pulse very soon shows the struggle under which the heart is labouring. The duration is very irregular, and the convalescence is always

protracted. Death often occurs from syncope. Mental symptoms, especially loss of memory, have often been observed during convalescence. Relapses may occur.

Diagnosis.—In the typical cases which follow the ordinary course, no difficulty is encountered ; but in the atypical ones it is often impossible to make it during life. The reason for this may be referred to the great variations in the clinical picture. Then, too, cases are undoubtedly not infrequently overlooked because the disease is currently supposed to be such a great rarity in the aged. Our improved methods of bacteriological diagnosis ought to be of great value, especially in these cases. The conditions which must be differentiated in the diagnosis are senile asthenia, senile pneumonia, gastro-intestinal inflammations and auto-intoxication, nephritis, and cerebral disorders like meningitis and thrombosis.

Prognosis.—This is grave, especially in the atypical cases. However, recovery is by no means rare. The protracted convalescence renders the patients peculiarly liable to death from inter-current complications. According to Murchinson, the mortality above fifty years is 34.94 per cent. Uhle states that 52.6 per cent. of the cases above forty years are fatal. Of the 5 cases I have reported, the 2 atypical ones terminated fatally, the 3 typical cases ended in recovery (60 per cent.).

Treatment.—The special features of the treatment of the disease in the aged are well stated by Boy-Tessier : “ To combat the adynamia with tonic treatment ; to guard against pulmonary complications ; to watch the heart, especially its right side. Baths are to be avoided on account of the atheromatous condition of the blood-vessels. Good results may be obtained from systematic cold enemata. Tepid baths are also serviceable. Cardiac tonics, like theobromine, caffeine, and alcohol are very useful.” Otherwise, the indications for treatment are the ordinary ones for the disease as it occurs in younger persons.—*Medical Record, February 26, 1898.*

3.—TYPHOID FEVER WITHOUT INTESTINAL LESIONS.

By ALBERT G. NICHOLLS, M.A., M.D.,

Assistant Demonstrator of Pathology, McGill University, &c. ;
and

C. B. KEENAN, M.D.,

Resident Surgeon, Royal Victoria Hospital, Montreal.

[We have had to omit here the details of Drs. Nicholls and Keenan's case as well as other parts of their paper. The case was very completely examined, including its bacteriology.]

Formerly typhoid fever could not be diagnosed with certainty in the absence of any of the classical symptoms or the characteristic intestinal lesions. With the increase of bacteriological knowledge, however, and the improvement in technique, we are now enabled to include under the category of typhoid many atypical cases about which we must otherwise have remained in doubt. To this result the discovery of the serum reaction has contributed not a little, and we are now enabled to form a more accurate conception of typhoid processes and to recognise the very various aspects which the disease may assume. The occurrence of typhoid fever with absence of the usual ulcerative lesions of the intestines is now recognised by several observers, notably Chantemesse, Vincent, Vaillard, Sanarelli, Roux and others. A number of such cases are on record, but some are not corroborated by bacteriological investigation, so that they are of no scientific value. A careful search of the literature for the past ten years has revealed the existence of only nine such cases which have been confirmed by the discovery of the bacillus of Eberth.

The time has gone by when we could regard typhoid as an infective process localised to the intestines, producing the general symptoms by the secondary action of its toxin. Rather have recent researches proved that the disease is an infective one, invading the organism through the lymphatics of the intestine and infecting the system as a whole, the intensity of the lesions being generally but not invariably directly proportional to their proximity to the point of inoculation; the brunt of the disease, hence, may fall upon lymphoid tissue, parenchymatous organs, or at times the central nervous system. From this point of view, which is abundantly supported by clinical evidence, the intestinal tract merely represents a point of departure for the typhoid germ and not the sole place of localisation for its development. The intestinal lesions should not be regarded as all important, but rather as incidents in the course of a general process. Thus it becomes conceivable that these lesions may at times be wanting. And this is the fact. The prodromal symptoms of the disease, the headache, malaise, anorexia and fever, are to be referred to the nervous system, and the lesions of the intestines may be atypical, delayed, or even absent. Our knowledge, then, of the symptomatology of the disease goes to prove that typhoid is not primarily or necessarily a disease of the intestines any more than variola is merely a disease of the skin. Besides this there is the well-known fact that the intestinal lesions bear no relation to the severity of the systemic infection, nor do the objective symptoms referable to the intestine—meteorismus, diarrhœa and the like—bear any relation to the local pathological condition. Consequently it would be more definite and more accurate to

include the typical text-book disease under the term "enteric fever," employing the term "typhoid" in a wider sense to include all pathological processes and conditions resulting from the action of the bacillus typhi or its toxins.

Broadly speaking, typhoid without intestinal lesions falls clinically into three main classes :—(1) Typical typhoid, minus the ulcerations ; (2) spleno-typhoid ; (3) the nervous type, with extreme intoxication. To the first group would appear to belong the cases of Banti, DuCazal and Cheadle. Diarrhœa may be present in such cases. Cases of the first type are very rare. The second class, spleno-typhoid, presents a more definite clinical entity, and was first described by Eiselt. This form is characterised by an excessively large spleen, often with acute perisplenitis, and fever of a recurrent type. In such cases the plasmodium malarie and Obermeyer's spirillum are absent. Some of these cases do present ulceration of the intestines, but it is often absent. The third class, due to a severe intoxication, are characterised by extreme prostration, delirium, coma, sometimes hyperpyrexia, degenerative changes in the vascular system leading to purpura, hæmaturia, melæna. Jaundice is sometimes present. Many of these cases are, no doubt, examples of secondary septic infection. To this class our own apparently belongs. The case, reported at length, presented on admission all the signs of an intense intoxication ; extreme prostration, somnolence, high fever, muscular twitchings, delirium, coma, and eventually death. The digestive disturbances were decidedly in the background, thus showing that the activity of the process was more directed to the central nervous system. And there is, indeed, some ground for believing that where the intestinal lesions are slight or absent, the nervous phenomena are both relatively and absolutely more intense. When we come to the etiology of such cases we enter upon more debatable ground. The usual channel of inoculation is, of course, the alimentary tract, but it is abundantly attested by several observers, notably Roux and Sicard, that inoculation through the air passages is by no means uncommon. It would seem probable at first sight that when the infection was acquired through the respiratory tract atypical typhoid would result, and it is by no means improbable that in such cases the brunt of the disease would fall upon the lungs, and that the intestines might only be slightly affected or not at all. In the absence of further information we are, however, unable to speak with any certainty upon this point. There is no doubt, however, that the *B. Typhi* have often been found in the lungs. In our own case, however, we are enabled in all probability to exclude an origin through the respiratory tract, for the pneumonia which was present was clinically a terminal event, and sections of the lung, stained by

the Gram-Weigert method, showed such a massing of the micrococcus lanceolatus about the pneumonic areas that we were forced to conclude that the condition was due to a secondary affection with this germ. Sections of the Peyer's patches showed, however, bacilli of the morphology of typhoid germs massed in the deeper parts in the characteristic clumps. So that the lowest Peyer's patches may have been the point of origin in spite of the fact that they presented so little divergence from the normal. A further point in favour of this view was the fact that the mesenteric glands were uniformly swollen soft; some beginning to necrose, and others hæmorrhagic. How can we then explain these facts. Observation gives us some information upon this point. In relapsed typhoid the ulcerative lesions affect those glands which escaped in the first attack, and are also never so intense as the primary ones. Trousseau indeed goes so far as to say that in the relapse the intestinal lesions are not renewed. However this may be, it seems that the intestinal mucosa having once suffered the action of the typhoid virus can resist the force of a second attack, and thus a local immunity is acquired. So that in these relapses the systemic disease may proceed in the gravest manner and even lead to death, while the intestinal lesions are absent. In the case we record, considering that it was an ambulatory typhoid of six weeks' to two months' duration before admission, it is open to assume that the attack we observed was a reinfection, and that at some earlier period of the illness in the previous attack the Peyer's patches had acquired a local immunity. This primary attack need not necessarily have been a severe one. It is quite probable that in the so-called abortive typhoid the Peyer's patches never get beyond the stage of tumefaction, and yet they will have acquired an immunity for a short time. Or we may assume that certain ptomaines derived from the gastro-intestinal tract, either circulating in the blood, or present in the intestinal mucosa, act so as to neutralise the local action of the typhoid virus and bring about intestinal immunity. Finally, we may assume that toxins derived from germs other than typhoid may antagonise their virus and a local immunity be thus acquired.

It was not our intention, however, to lay down hard and fast principles, but rather to draw attention to lines of thought suggested by the newer pathology. Clearly our old views of the pathological processes in typhoid fever will have to be considerably modified, in fact almost replaced by a more adequate and elastic interpretation of clinical facts, and our conceptions, while at present losing definiteness, must acquire greater breadth until further research places the subject on a clearer basis.—*Montreal Medical Journal, January, 1898.*

4.—TYPHOID BACILLI IN THE URINE OF TYPHOID PATIENTS.

By P. HORTON SMITH, M.A., M.D., M.R.C.P.,
Fellow of St. John's College, Cambridge, &c.

[The following is taken from Dr. Horton Smith's paper:]

My method was as follows:—Typhoid cases were taken as early in the disease as they could be obtained, and the urine was then examined every second or third day until about a week after the temperature had fallen to normal. The urine was not, as a rule, drawn off by catheter, since it did not seem right to expose the patients to any possible risk, but it was passed direct into a sterilised flask. With one exception male cases only were used, to avoid any contamination from the vulva, and in the one exception, Case 2 of my series, the urine was drawn off by catheter, the orifice of the urethra being first carefully washed with soap and water, and then with carbolic lotion. The urine having been thus obtained, it was examined as follows:—First, a drop was placed on a slide, allowed to dry, and then stained with gentian violet. It was then examined for bacilli under the microscope. Secondly, gelatine plates were made. The gelatine was first poured out and allowed to solidify in the plate, and then the urine was dropped on to the surface of the gelatine and smeared all over it. In this way it was insured that all the colonies should be superficial ones—an important point, since a deep typhoid colony would certainly be missed. Two gelatine plates were always made, one containing, as a rule, one or two drops of urine, and the second about twenty. The exact number, however, of course, depended on whether or not bacilli were found in the stained specimen, first made as explained above.

In the first four cases, I may add, some of the urine was set aside and left to incubate at 37° for forty-eight hours, after which plates were made with it. This is the method recommended by Professor Wright, by which he so often found bacilli, which he regarded as typhoid. I may say at once, however, that this method in my hands proved valueless. I felt, however, that even if I made a gelatine plate with 20 drops of urine (*i.e.*, about $\frac{1}{2}$ c.c.), and failed to find it in colonies of typhoid bacilli, I was *not*, therefore, justified in saying that they were necessarily absent altogether from the urine, for the quantity of urine taken might have been too small. I therefore modified slightly the method which Dr. Klein has invented for water analysis, and adapted it to the urine, and this method I used in the last three cases in addition to making plates with the ordinary urine. The apparatus employed was, of course, carefully sterilised before use.

The method consists in filtering by means of a force-pump about 200 c.c. of urine, which had been obtained as described above, through a Chamberland's bougie, then washing by means of a sterilised brush the micro-organisms and mucus left behind on the bougie into 3 or 4 c.c. of sterilised broth. From this two surface-gelatine plates were made, one with 2, the other with 15 drops of the washing; 15 drops would correspond to about 750 drops, or about 25 c.c. of the pure urine; hence if no typhoid bacilli were found in a plate made with this large amount of urine, it seemed reasonable to conclude that they were really absent from the urine, and had not merely been missed from examining too small a quantity. I may at once here add that these filtering experiments simply confirmed the results obtained from the plates made with $\frac{1}{2}$ c.c. of urine. The plates having been made in the manner described above, they were set aside to incubate at 20°, and were examined after twenty-four, forty-eight, and seventy-two hours. If after this period no colonies resembling *B. coli* or *B. typhoid* had appeared they were set aside. If, however, any suspicious colonies were seen, they were examined further, as follows:—First, a trace of the colony was taken and examined under the microscope unstained. If the microbes proved to be bacilli, even although hardly any movement might be present, a shake culture in dextrose-gelatine and a stroke culture in ordinary gelatine were made. If, after twenty-four hours, gas had formed in the shake culture, the culture was set aside; if, however, none had formed, further cultures were made in broth and milk and set aside for one month for the indol and coagulation tests. A culture was also made on agar, and after eighteen hours the motility of the bacilli was examined in a drop of broth. Also the cilia of the bacilli in this culture were stained by Van Ermengen's method. Lastly, the serum test was applied.

Supposing, then, a bacillus obtained from the urine of a patient suffering from typhoid fever answer these tests, that is to say, proved to be a bacillus, which often showed long threads, which possessed high motility, which was provided with eight to twelve or more cilia, which, however long kept, did not produce gas in gelatine or dextrose-gelatine shake cultures, while growing well in the substance of these media, which even after one month did not produce indol in broth-cultures, nor clot milk, which, however, did produce slight acidity in milk after twenty-four hours, and which, lastly, gave a positive reaction when tested with typhoid serum—then, and not till then, I think one is justified in saying that it is really the typhoid bacillus. Such has been the method which I have adopted in testing my bacilli, and all those which in this paper are called typhoid have answered correctly to these tests. I may add that they were

also pathogenic, for they killed guinea-pigs when injected into the peritoneal cavity, just like typhoid bacilli derived from other sources. Also they were decolourised by Gram's method.

Results.—The results of my observations on the urine are as follows :—Seven cases have been examined, and in all 61 observations have been made. In 3 cases I have found the typhoid bacillus in the urine, and in 4 not. In no case have I found the bacillus before the beginning of the third week of the disease, although seventeen observations were made during the first and second weeks. In one case the bacilli did not appear until the thirty-ninth day, although in this case ten observations had been made before this date. On some rare occasions the urine was rendered quite turbid by the numbers of bacilli excreted, but in others not so many were passed, though on eight occasions a drop of urine dried and stained showed the bacilli under the microscope. The urine containing bacilli was in 2 cases non-albuminous or contained but a cloud of albumen; in the third case, however, it was highly albuminous.

Conclusions.—(1) That true typhoid bacilli do occur in the urine in some, though not in all cases of typhoid fever. (2) That when they do occur they are present in considerable numbers, so that a plate made with $\frac{1}{2}$ c.c. urine is amply sufficient to detect them; more laborious methods, such as the filtration method, being therefore unnecessary. Not uncommonly, also, if a drop of such a urine be dried and stained the bacilli may at once be seen under the microscope. Occasionally, also, the urine may be rendered turbid by the enormous quantities of bacilli passed. (3) My experiments also show that when the bacilli do occur they only appear towards the end of the disease—that is to say, during the third week or latter; their presence, therefore, can rarely, if ever, be an assistance in diagnosis. Observers who have discovered them as early as the third day have probably mistaken *B. coli* for them, or possibly Petruchsky's *Bacillus faecalis alkaligenes*. Lastly, in view of these facts, I should suggest that some antiseptic should always be added to the urine of typhoid patients as well as to their fæces, this precaution being taken at the present time, so far as I know, only with regard to the latter.—*Medico-Chirurgical Transactions*, 1897.

5.—THE PREVENTION OF ENTERIC FEVER.

[The following is taken from the remarks made by Drs. Payne, Kanthack, and Sims Woodhead in the discussion before the London Royal Medical and Chirurgical Society:]

Dr. J. F. Payne said that if every case were efficiently looked after the disease would, everyone would admit, be greatly

diminished or, from the strict specific point of view, exterminated. Our first duty, therefore, was to take such measures as would ensure efficient disinfection of the excreta, &c., of typhoid cases. Assuming that it was possible to destroy all the bacilli in the fæces, burning was the best method, but was often inconvenient from the large bulk of liquid mixed with the fæces, and at any rate in private houses could not always be carried out. If the liquid method was adopted, sufficient quantities of perchloride of mercury or hydrochloric acid must be employed. Fæces were not the only channels by which infection spread; urine, sputa and even saliva must be taken into consideration. Linen and cotton garments, after being dipped in carbolic acid, should be finally disinfected by boiling; the risk of infection then fell only on the laundress, but was much less than in scarlet fever. Woollen garments, flannels, and blankets, however, were never boiled, and so might go again and again to the wash without being ever properly disinfected. It was not certain that the customary 1 in 40 carbolic acid solution was sufficient to thoroughly disinfect, but there were difficulties in the way of using any stronger solution. Mr. White, of St. Thomas' Hospital, had found that perchloride of mercury so stained and destroyed woollen fabrics as to be useless. In hospitals woollen articles could be disinfected by means of the disinfecting oven, but this was inapplicable in private houses, and some new method was required. This disinfection of fæces, linen, &c., was the first line of defence against typhoid fever, and was the province of every medical man; when the disease had broken through it the matter was one for public health officers. One case of enteric might give rise to a terrible epidemic, and hence the most vigorous measures must be adopted; and, without undervaluing the labours of our sanitary reformers, we should, in our domestic management of cases of typhoid, act as if that second line of defence did not exist. The public were fully convinced of the universality of typhoid infection by inhalation; this was a doubtful question, but he could quote cases in which it seemed probable that it occurred.

Professor A. A. Kanthack entirely agreed that prevention was better than cure. His remarks fell chiefly under two heads:— (1) The consideration of the source of supply of the bacillus typhosus; and (2) its distribution. First, with regard to the source of supply, it was generally recognised that the fæces were the chief source, and recently the urine had been shown to contain bacilli. They might be found in abscesses, and not only on those developing during or soon after the disease, but in suppuration arising in years after. It was now known that in necropsies on enteric fever patients the bile invariably contained

typhoid bacilli ; they might remain in the gall bladder for years, as shown by W. H. Welch's case of cholecystitis eleven years after the fever. As to how long typhoid bacilli might be present in the fæces after convalescence there was no bacteriological evidence, but in cholera the vibrio might be present after the fæces had become solid ; it seemed probable that the same would hold in typhoid, especially as the bacilli might remain for years in the gall bladder, and therefore at any time pass into the bowel. A healthy man who had recovered from typhoid fever was therefore a possible source of infection. These points had an important bearing on the doctrine that every case of typhoid fever was to be traced to another, for the connection might be very difficult to establish. There was evidence that typhoid bacilli might remain dormant and multiply on the soil, and so under favourable conditions obtain entrance into water. He laid stress on the importance of working out the natural history of the bacillus. The neglect of disinfection of typhoid intestines and excreta was, now that one's attention was called to it, a very grave matter, and should be rectified. The absence of control over water supplies was a serious matter.

Dr. Sims Woodhead said that in connection with the contamination of water supplies, cisterns, though advantageous to the community at large, were a source of danger to the individual houses ; for in cisterns conditions existed which were favourable to the development of typhoid bacilli if they once get in, and this might occur from a breakdown of the high pressure in the mains. During the prevalence of the Indian plague at Poona, excellent results had followed notification and a system of inspection, and the adoption of these methods might, as evidenced by Dr. Davies' success in Clifton, cut short typhoid epidemics. It was noteworthy that the course of milkborne and waterborne typhoid epidemics was very different ; water infection was a more complicated and difficult problem, even though the source of pollution was found ; while milkborne typhoid was more easily controlled. It appeared that the typhoid bacilli persisted longer in waterlogged soils, even though not rich in organic matter, than in dry earth with more organic basis. He laid stress on the importance of regular and systematic examination of water supplies, sewage, &c., as advocated by Professor Boyce ; isolated examinations were of comparatively little value. A point of importance that had been brought out in this discussion was the early detection of an epidemic of typhoid fever by means of the Widal reaction. It was important that the epidemics of diarrhœa which preceded typhoid outbreaks should be investigated by the serum test, as it was probable that typhoid fever would be thus dejected. During epidemics typhoid excreta should be burnt ; it was not safe to bury them

in dry earth. He admitted it might be possible to overestimate the danger of burying typhoid excreta in dry earth, but he insisted it was most dangerous to allow them to pass into water-logged soil rich in organic matter. At present it was impossible to say what organisms would act in an antagonistic manner to the typhoid bacilli. But typhoid and colon bacilli grew under similar conditions, so where the bacillus coli flourished the typhoid bacillus might, if suitable conditions arose, develop. An active infection of colon and typhoid bacilli might occur simultaneously; in this way, cases where an apparent transition from colon bacillary to typhoid infection had been observed might be explained.—*British Medical Journal*, December 18, 1897.

6.—THE CLINICAL VALUE OF DIPHTHERIA ANTITOXIN ADMINISTERED BY THE MOUTH.

By JOHN ZAHORSKY, M.D., St. Louis,
Clinician to the Children's Department, Missouri Medical
College, &c.

Encouraged by the good effects obtained by De Minicis in administering diphtheria antitoxin by the alimentary tract, it was thought prudent to extend observations, and, independently, by the addition of cases endeavour to ascertain its clinical value. Moreover, Chantemesse has found that the rectum absorbs diphtheria antitoxin, so that, *a priori*, the inference was justifiable that the ingestion of antitoxin would lead to positive results. It is also to be remembered that in 1895 and 1896 the immense enthusiasm which arose in consequence of the remarkably happy effect of antitoxic serum was somewhat darkened by the occurrence of many sudden deaths after the subcutaneous administration; on this ground Sidney Phillips urged that antitoxin was not without danger, and its injection as a prophylactic measure, consequently, unjustifiable. It was therefore determined to study the effect of diphtheria antitoxin administered by the mouth as a curative agent. The cases illustrate its effect. It is necessary to note that in no case so treated had the duration of the disease been more than two days. [The details of the nine cases are omitted. The ages varied from 11 months up to 31 years. The total amount of antitoxin given was from 1,500 to 6,000 units. All the cases recovered.]

The literature of 1897 contains very few accidents due to the administration of diphtheria antitoxic serum. Yet one or two deaths have been reported. Compared with the many cases that occurred the two previous years, the death-rate seems to have diminished decidedly; no doubt this is due to superior

antitoxin, to improved instruments, and to greater precautionary measures. Therefore, the statements made by Phillips that it is unjustifiable to give immunising injections must be modified materially. Not only are prophylactic injections justifiable, but a physician becomes grossly negligent if he fails to use antitoxin in those children who have been exposed to the danger of infection. In the Bethesda Foundling Home in the last year on two different occasions diphtheria of the most virulent type occurred, but was promptly checked by the subcutaneous injection of immunising doses in all other infants, about seventy-five in number. In private practice, however, frequently we find very nervous children, to whom the sight of a syringe is a terror, and who are nearly seized with convulsions at an attempt to give the injection. Occasionally, also, parents, while consenting that the sick child receive the injection, will strenuously oppose the attempt to immunise the other members of the family. For this reason it is desirable to administer the antitoxin by the mouth. Under the direction of Professor Saunders clinical tests were made. We can now report twenty cases immunised, in seven different families, where isolation was not possible; also four cases in hospital practice, and eighteen cases in private practice, where there had been more or less exposure to the infection, but isolation was secured. The dose administered was never less than four hundred units and as high as one thousand units. It was given diluted with cold water or whey. In eight cases antitoxic milk was used. The age of these children immunised ranged from six months to fourteen years. About ten adults also were immunised by giving one thousand units per os. In all these cases we have but one failure to record, and in this the symptoms appeared twelve hours after the administration of five hundred units by the mouth. This may be explained by the fact that the serum requires about twelve hours for absorption.

The antitoxin diluted with water is readily taken by children. It has the taste of the antiseptic trikresol. Its administration in pure cold water seems to be preferable. One volume of antitoxin to about two or three of water is sufficient dilution. Whey is an excellent vehicle, but should be cold when used. The great objection to the ingestion of antitoxin is its slow absorption. Its effect is not noticed until about twenty-eight to thirty-six hours have elapsed—*i.e.*, about twelve to sixteen hours later than when given subcutaneously. This would seem to show that it is absorbed only in the large intestine. Its therapeutic value, administered in this way, seems to be almost as definite as when used by the hypodermic route, yet its absorption is at times either delayed or entirely wanting, as was shown in one case.

When pilocarpine is used as an adjuvant to the serum, the administration of the former drug should be intermitted or given in smaller doses for a short time, unless severe toxic symptoms ensue; for it is possible that the action of the alkaloid may interfere with absorption of the serum. The sequelæ to antitoxin administered by the mouth are similar to those produced by its subcutaneous use, but the percentage is probably less. In the forty-nine cases reported, urticaria developed in five cases. Well-marked joint pains were noticed three times. Dysmenorrhœa occurs in young women almost invariably at the next menstrual period, whether given in one way or the other, as Professor Saunders has pointed out in a previous paper.

Conclusions.—Diphtheria antitoxin acts similarly whether given by the mouth or subcutaneously, but its effect occurs much later when given in the former way. It is possible that the intestinal epithelium refuses at certain times to take it up, and therefore it is a less reliable method. This mode should be employed in mild cases when objections stand in the way of its hypodermic use. It may be also used in mild cases in adults. Its use by the mouth as a prophylactic measure is to be recommended, as it presents many advantages. However, if the child has been exposed to diphtheria for as much as two days the hypodermic method should be employed. Joint pains, erythema, urticaria, and dysmenorrhœa are not prevented. From a clinical standpoint, therefore, it is to be urged that for curative purposes the administration by the mouth should be restricted to exceptional cases; but for prophylactic purposes this method should receive the preference.—*New York Medical Journal, March 19, 1898.*

7.—THE SERUM TREATMENT OF DIPHTHERIA.

[[The following is taken from Mr. F. J. H. Coutts' report of a discussion in the Manchester Therapeutical Society :]

Dr. Wild showed specimens of diphtheria antitoxin serums, and compared the cost of the different preparations.

Dr. Leech stated that he was much impressed by the first case of antitoxin injection which he saw. It was in a child of eighteen months, suffering from laryngeal diphtheria, and the patient recovered. He had seen other similar cases, whereas, in 35 years' practice, he had never seen laryngeal diphtheria end favourably without antitoxin in children under two years of age. He was quite convinced of the value of the serum treatment in children, but he was not sure that it had reduced very considerably the mortality of diphtheria in adults.

Dr. Marsden related his experience with the use of antitoxin at the Monsell Fever Hospital. They used there the serum of the British Institute of Preventive Medicine, injecting a dose of 3,000 units at once, except in the case of children under eighteen months' old, when they used a dose of 1,500 units. He had never seen any ill-effects from injecting the whole dose at once. Often there was no appreciable local effect by the end of twenty-four hours, and even up to thirty-six hours after injection. By the end of forty-eight hours, however, the membrane was thinner, or almost gone; in many cases it seemed to melt rapidly away. When septic ulceration was present as well, the effects were not so rapid or marked, but by the end of forty-eight hours some improvement was manifest. The general effects of the antitoxin included relief of the throat symptoms, fall of temperature, and diminution of membrane. He thought it was desirable to inject antitoxin even if the patient was not seen till the seventh or eighth day of the disease. He did not think antitoxin contributed materially to produce nephritis. More of the severe cases recovered or held out longer under the serum treatment, thus giving more time for secondary results to follow. In one case of nephritis, with a very large quantity of albumen, antitoxin injections were made, and the patient recovered. The ill-effects which he has seen have been very troublesome rashes, but these were more frequent in the early days, before the serum was supplied so concentrated. He had seen cellulitis occasionally at the point of injection, but this only once went on to suppuration.

Dr. Dreschfeld said he had seen bad cases do very well when injected early, but he had also seen cases die, though injected on the first day. He had noticed improvement even during the first twenty-four hours. He had not found prophylactic injections very successful.

Dr. Harris considered that certainly immense benefit was obtained by antitoxin treatment in laryngeal cases, especially such as required tracheotomy.

Mr. Coutts gave statistics compiled by the Committee of the American Pediatric Society for the collective investigation of the value of antitoxin in laryngeal diphtheria, also the figures recorded in the practice of Dr. O'Dwyer and Dr. Dillon Brown of laryngeal diphtheria requiring intubation, showing the comparison of the results obtained with and without antitoxin. These figures agree in showing a reduction in the mortality from 70 to about 30 per cent. in cases of laryngeal diphtheria requiring intubation or tracheotomy, a striking testimony to the value of treatment in an extremely severe class of cases.

Dr. Wild suggested that members might note the effect of the different preparations, particularly in view of the marked

difference in cost. On the question of statistics, he pointed out that notwithstanding the introduction of the antitoxin treatment the number of deaths from diphtheria in London had remained practically unaltered. The number of cases of diphtheria notified had increased largely, perhaps owing to the addition of cases bacteriologically diphtheritic, but not so clinically.

Mr. Platt had performed tracheotomy for diphtheria without antitoxin in eight cases, all of which died. The only two cases in which he performed tracheotomy when antitoxin was used both recovered.

Dr. Hopkinson mentioned a case of sudden collapse after antitoxin injection.

Dr. Marsden stated that sudden death from diphtheritic toxæmia was not uncommon, and he would not be disposed to blame the serum injections for the fatal collapse.—*Medical Chronicle, February, 1898.*

8.—THE SLOW PULSE FOLLOWING DIPHTHERIA.

By W. F. LITCHFIELD, M.B., Ch.M., Sydney.

[The following is taken from Dr. Litchfield's paper :]

A boy, aged eight years, was brought to me on November 1, 1897. I found him to be suffering from a severe form of pharyngeal diphtheria. The history pointed to that being the fifth day of the disease.

There was false membrane on both tonsils and on the uvula. There was also considerable swelling of the soft palate on the right side, and over this swelling there was a thin, ill-defined, glazed-looking false membrane; the glands at the angle of the jaw on the right side were also considerably swollen. The internal organs were all apparently healthy. The pulse rate was 115, and the knee-jerks were present. Pebring's antitoxin (1,500 units) was administered without delay. A throat swab of liq. sodæ chlorinatæ was ordered, and brandy and strychnine given internally. On November 4, *i.e.*, four days after the antitoxin was given and about the tenth day of the disease, I found that the pulse rate had dropped to 50 beats per minute. It was, however, regular, and of fair tension. In the meantime, the membrane had almost all come away, and the swelling in the neck had subsided. The boy was weak, but brighter than when first seen. He had also had several momentary convulsive seizures. On November 5 the pulse was 50, but it was now somewhat irregular, and there was occasional vomiting. On November 6 the pulse had fallen to 36. He was still vomiting, and there was great prostration; the throat was now quite clear; the urine was passed freely, but was not examined for albumen. On November 7 the pulse was 37 and weaker. There was some palate paralysis. On November 8 the pulse was 42, irregular, and of low tension. The knee-jerks could not be elicited. On November 9 the pulse ranged from 36 to 44. In the evening the patient had a convulsion, and, sinking gradually afterwards, he died about 9 p.m. The nurse states that an hour before death the pulse-beat registered only 20 to the minute. I did not see him at this stage myself.

Remarks.—The interesting feature in this case is the extreme slowing of the pulse. I have not seen the pulse fall below 40 after diphtheria before. I would like here to call attention, in lieu of what I shall say presently, to the progression of the post-diphtheritic symptoms in this case. There was first a general asthenia, followed shortly by the onset of a slow pulse, then came paralysis of the palate, and finally loss of knee-jerk.

The slow pulse of diphtheria has hitherto received but little attention. The literature on the subject is very scanty, and no attempt has been made to give this important clinical sign its proper place in diphtheria. Some time ago, by kind permission of Dr. Clubbe, I published some remarks on the pulse in diphtheria. I had, as material to work with, the records of 150 cases of diphtheria that had come under my notice at the Glebe Hospital. I shall quote from that article so far as it suits the purpose just now. "The pulse in an attack of diphtheria is quickened; the rapidity of the pulse varies with the intensity of the attack, reaching its greatest height in what we know as malignant diphtheria. When death occurs in this, the toxæmic stage, the pulse that fails is always a rapid one. In the large majority of cases, during convalescence after diphtheria, the pulse becomes slowed. This slowing sets in as a rule about the tenth day of the disease. It may appear a little earlier, and sometimes occurs later. The local manifestation of disease is usually over before the retardation of the pulse begins. The slowing is generally distinct, and irregularity and low tension are other features of the pulse. Occasionally, however, the pulse, though slow, is regular and of fair tension; again, the slowing may not be marked, but there is irregularity and low tension. In this series, six deaths were ascribed to post-diphtheritic heart failure. In every case a slow pulse ushered in the failure, and ample warning was given of the impending danger." These things seem to me to establish beyond dispute one fact, namely, that this slow irregular pulse which sometimes progresses towards extinction is the result of a post-diphtheritic condition, *i.e.*, it is due not to the direct action of the poison, but to some disturbance left by the poison. The position I wish to take up is that the post-diphtheritic pulse is a paralytic phenomenon, and that the lesion is a degeneration of the nerve terminations within the heart. I do so partly on positive, but perhaps chiefly on negative evidence. The positive evidence exists in the close relationship that obtains between the occurrence of the slow pulse and the undoubted paralytic processes. The negative evidence in favour of my contention depends on the absence of sufficient cause elsewhere to produce this peculiar form of pulse.

Degeneration of the vagus nerve has not been found sufficiently often to account for the pulse in question, nor would we expect it to cause slowing of the pulse even if present. The question whether degeneration of the cardiac muscle is the cause of post-diphtheritic cardiac slowing and weakness is not so easily dismissed. Dr. Sidney Martin says, without special reference to the slow pulse, that cardiac failure in diphtheria is due to fatty degeneration of the heart muscle. He based his conclusions on some experiments on animals, and on a few autopsies on human beings. He gave his animals large doses of diphtheria toxin, and examined their hearts after death. The animals died at periods of one to three days, and he always found fatty degeneration of the cardiac muscle. Again, he found the heart fatty in two or three cases of cardiac failure in human beings, the subjects of diphtheria. Now, I take it that fatty degeneration of the heart is caused in two ways by diphtheria—(1) by the direct action of a large dose of toxin; (2) by a degeneration of the muscle fibre secondary to nerve destruction. The first will occur early in the disease, and may be called diphtheritic or toxæmic fatty metamorphosis, while the second will occur later, and may be called post-diphtheric or paralytic fatty metamorphosis. I have already shown that the diphtheric pulse is always rapid, and the post-diphtheric pulse nearly always slow. Hence, if we accept the theory that heart-failure in all instances is due to fatty degeneration, we are driven into the absurd position that fatty heart is the essential cause of a rapid and at the same time is the essential cause of a slow pulse. Moreover, fatty degeneration of the heart, as we know it in other diseases, is not specially associated with a slow pulse. For these reasons, while admitting that fatty degeneration of the muscle wall would complicate matters and increase the liability to heart failure, one cannot accept fatty degeneration of the cardiac muscle as the underlying factor in the production of the post-diphtheritic pulse. With regard to the treatment of threatening heart-failure after diphtheria, I can only advise rest, brandy, and strychnine.—*Australasian Medical Gazette, February 21, 1898.*

9.—MEASLES AND DIPHTHERIA.

By W. P. NORTHRUP, M.D., of New York,
Professor of Pediatrics in the Bellevue Hospital Medical
College, &c.

Measles in private practice, compared with measles epidemic in a public institution, seems to bear much the same relation in respect to gravity that varioloid bears to modified small-pox.

Soldiers in barracks, prisoners in penitentiaries, and children in institutions seem to suffer from the grouping of cases of this infectious disease. This is especially true of epidemics occurring during the late winter months, after a long period of housing. There is certainly no epidemic disease which has ever visited the New York Foundling Hospital that has inspired such dread as has measles; its contagiousness is greatest, its complications most constant, its sequelaë gravest, and its mortality highest. Two years ago the Medical Board of the Foundling Hospital set itself the task of keeping measles out of the institution. Its methods were so far successful that no case occurred within doors or was brought in by children returning from the out-door department during a period of sixteen months. At the end of this time, by accident, an infant in the earliest stage of the disease, sojourning in the house one night, started the epidemic which forms the subject of this paper. In its results, this epidemic was by far the most favourable of all ever experienced in the institution; it was widely distributed, least serious in its complications, and least grave in its fatalities; it appeared in every nursery, penetrated every quarantine, attacked children already suffering from whooping-cough, bronchitis, diphtheria, and tuberculosis, infecting all susceptible infants. Though the figures may not impress the practitioner, whose experience is confined to measles occurring in well-nourished children living at home, the hospital physician will appreciate them, and also the steps taken to modify the course of the disease.

Season.—This epidemic occurred during October and November. The temperature during these two months was unusually uniform and mild, allowing efficient ventilation. The children had had, during the previous summer, abundant recreation in the open air, and were in a good state of physical health.

Distribution.—Every precaution was taken to avoid grouping, so far as possible, of children in the active stage of the disease.

Precautions.—The children's eyes, noses, and mouths were cleansed with boric acid solution. The rooms were not kept dark, but the beds were so arranged that the eyes were turned away from the bright light and reflecting surfaces. It was a rule to keep all children in bed, under watchful care, during at least six days from the time the temperature became normal. Special stress was laid upon this regulation, at the same time that mouth cleanliness and ventilation were carefully supervised. Under this routine practice but two patients developed pneumonia. In both the temperature had previously been normal twenty-four hours. The complicating pneumonias developed during the first stage of the disease—the first week.

Statistics.—In all, there were 258 cases and 36 deaths (13·9 per cent.). Of the 258 cases 53 were complicated with broncho-

pneumonia (20·5 per cent.); of these 31 terminated fatally (5·8 per cent.). Autopsy showed the presence of complicating broncho-pneumonia in 31 of the 36 fatal cases. It should be remembered that the mortality is from complicated measles occurring in susceptible children, in age from nurslings to "runabouts" 4½ years old, regardless of previous illness or general condition of nutrition.

Complicating Diphtheria.—Immunisation.—In many measles epidemics diphtheria, pharyngeal and laryngeal, with subsequent broncho-pneumonia, has been a most pronounced feature. In the one under consideration systematic immunisation was practised upon all children not believed to be, by reason of age or location in the hospital, reasonably safe from complicating diphtheria. No nursing babies were immunised; one developed diphtheria. Of those believed to be in danger of contracting this disease (in age from 2½ to 4½ years, or from location in or near nurseries in which diphtheria had been observed in the memory of Dr. N. R. Norton, the present house physician) 129 were immunised. Some of this number had probably had measles previously; for though fully exposed they did not contract the disease. However, 77 of the number immunised against diphtheria successfully passed through measles without developing this dread complication. In one nursery, considered safe, no cases of diphtheria developed, and yet none of the patients contained in it (13 susceptible) were immunised. This nursery was at the top of the largest building—the administration building—and widely separated from others. In a second nursery, where diphtheria had been occasionally observed, nine children with measles were not immunised, and the third day after the appearance of the rash four out of the nine had a bloody nasal discharge. Cultures made from this showed the presence of the diphtheria bacillus. It was considered that this nursery would afford a fair control upon the observations in the remainder of the hospital. When the diagnosis of diphtheria was confirmed the four patients mentioned were immediately injected with 2,000 units of antitoxin; the five remaining patients were immunised. No further cases appeared in this nursery, and the four children already having nasal diphtheria recovered.

The immunising dose of antitoxin employed was 250 units (antitoxin of the New York Board of Health). No antitoxic rash appeared after the employment of this dose. On two occasions a dose of 400 units was employed for purposes of immunisation, with the subsequent appearance of urticaria. No local disturbance or constitutional reaction was observed in the cases immunised with 250 antitoxic units. As regards the accepted period of immunity following the injection of the

diphtheria serum, it was interesting to note that in two cases, after respectively 31 and 33 days, pharyngeal diphtheria developed. In these, curative doses of the serum were at once administered, and the patients promptly recovered.—*Medical News*, December 25, 1897.

10.—SUDDEN DEATH IN ACUTE RHEUMATISM.

[The following is taken from a report upon Dr. Herringham's paper, read before the London Clinical Society, and the discussion upon it in the London Clinical Society :]

Dr. Herringham read notes of an illustrative case. A girl, aged 16, was admitted February 27, on the second day of a first attack of rheumatic fever, with a temperature of 103° F.; a pulse of 128, and respiration at 32. Many joints were inflamed. The heart was not enlarged at the time of admission, the apex-beat being within the nipple-line; but there was a double apical murmur. She complained much of pain in the umbilical region, for which no cause could then be found. The joint pains quickly ceased under salicylate of soda; but she continued to feel much pain in the epigastric and præcordial regions, and became pale and cyanotic. The heart enlarged, the apex beat passing beyond the left nipple, and small râles became audible over the lungs, and the fever persisted. Impairment of resonance was found over the left lung, and the respiration rose to 64. This state continued until March 11. During the previous night she had slight hæmoptysis, and at 10.30 a.m. a sudden change for the worse occurred and she died in a few minutes. A post-mortem examination showed œdema of both lungs and fatty degeneration of the walls of the left ventricle, with much increase of cells in the interstitial connective tissue—acute myocarditis. This acute change in the heart is probably the usual cause of the few cases of sudden death in rheumatic fever. A certain diagnosis appears impossible; but suspicion should be aroused if, along with cyanosis, for which there appears no sufficient cause in the lungs, there exists considerable pain in the epigastric or præcordial regions.

Dr. Maclagan pointed out that the importance of inflammation of the muscular substance of the heart consisted in recognising the fact that it did occur as a serious complication in rheumatism. He mentioned that the subject had been brought before the society some years ago by Dr. Ord as pericarditis with and without head symptoms. He believed that the cases in which head symptoms occurred were those in which the pericarditis was complicated by myocarditis. He believed that

the inflammation spread from the pericardium to the myocardium, but never from the endocardium to the myocardium, and he pointed out that endocarditis never spread all over the heart but was limited to certain spots. The changes in the myocardium might, however, occur independently of either one or the other. The treatment was 10 grains of salicylate every four hours, and he was certainly of opinion that this might have been left alone, for there was no possibility of doing any good with such a dose. He, himself, never gave it in cases where he suspected the heart, preferring salicine in such cases. He recalled the fact that Charteris had stated that the deleterious effects sometimes observed after salicylate of soda were due to its containing an impurity in the shape of creosotic acid. Alluding to the author's remark that death was due to hyperpyrexia, probably the result of the action of the rheumatic poison on the nervous system, he said he failed to see what authority there was for such a view, this complication not being limited to acute rheumatism.

Dr. Lees said they were much indebted to the author for the details of the post-mortem examination in his case. He thought that in every fatal case of acute rheumatism a microscopical examination should be made of the cardiac muscle. Unless definite post-mortem evidence were obtained the clinical symptoms afforded them very little ground on which to arrive at a diagnosis of the exact nature of the cardiac lesion. He referred to the condition of acute dilatation of the heart in rheumatic fever, to which his attention had been drawn in the course of researches on pericardial disease in children. Careful observation and measurements had led him to remark acute dilatation of the heart, which he attributed at first to the weakening effect of the pericarditis on the cardiac wall, regarding it, in fact, as a myocarditis which had spread inwards. In another case where there was no evidence of peri- or endocarditis, no rub or murmur, but the cardiac dulness had gradually increased, and subsequently diminished under treatment. This made him believe that there was, apart from pericarditis, a definite enlargement of the heart. The progress of recovery was watched by the aid of tracings made without reference to those taken on the preceding day, and a series of such tracings showed that at first there was great dilatation, which rapidly diminished to normal under treatment. In one case, a young man, in whom there was neither rub nor murmur, the cardiac dulness returned to normal, and he left the hospital. A short time after he returned with a fresh attack, and again the cardiac enlargement was noticed. The symptoms—delirium, pain, dyspnoea, and a tendency to cyanosis—were not in themselves proofs of genuine inflammatory condition of the cardiac

substance, but were more probably due to some toxic action of rheumatism. He was disposed to think that the supposed injurious action of the salicylates was perhaps partly a question of idiosyncrasy, and was an error of appreciation, the depression being really due to the pericarditis.

Dr. Alexander Morrison observed that the initial evidence of cardiac failure in a large number of these cases first manifested itself in the left lung.

Sir Dyce Duckworth observed that anyone who had seen much of rheumatic fever must have witnessed cases similar to these. He had learned to recognise such cases, and clinically to recognise the approach of such events, sometimes averted by treatment. He suggested that enough stress was not laid on the existence of myocarditis, and on its being the result of the influence of the rheumatic poison. He said he had seen pericarditis spread into the myocardium, but he had also certainly seen endocarditis pass bodily into the substance of the heart structure. One of the symptoms that ushered it in was progressive failure of the circulation. He referred to a very similar case brought before the Royal Medical and Chirurgical Society some years ago which had led to much discussion. That patient had been treated in accordance with the then prevailing practice by large doses of alkalis. He thought that salicylate was an agent that required to be carefully watched, and in the event of myocarditis supervening it should be discarded or combined with brandy. He himself would prefer, under these circumstances, to leave it alone altogether, substituting iodide of potassium and quinine. He thought this complication might often be averted by a suitable tonic treatment, though some would prove fatal in spite of it.

Dr. Herringham, in reply, explained that salicylate of soda was only supposed to relieve the pain of rheumatism, and he did not use it for any other purpose. Stimulants were also given.—*Medical Press and Circular*, February 2, 1898.

11.—THE MEDICINAL TREATMENT OF RHEUMATOID ARTHRITIS.

By GILBERT A. BANNATYNE, M.D., M.R.C.P. Ed.,
Hon. Physician to the Royal Mineral Water Hospital, &c.

[The following is taken from Dr. Bannatyne's article :]

Unfortunately for a large class of sufferers, certain forms of rheumatoid arthritis have hitherto proved not only incurable, but also almost impossible to alleviate. Latterly, however, so far from this being the case, I believe all cases, if seen early,

can be cured, or if, in the later stages, not cured, yet the attack can be arrested and further damage prevented. Where the disease has already given rise to much disorganisation and destruction of the joint tissues, both soft and hard, of course we cannot renew them and make them as of old, but we can, having arrested the further development of the morbid process, alleviate suffering, and by improving the patient's condition generally, give greater ease and bodily comfort, and enable him in a modified sense to enjoy the use of the affected joints. This satisfactory result has been brought about partly by newer methods of treatment by drugs, and partly by the use of old and well-understood methods of dieting, bathing, massage, &c. It is not the latter forms of treatment that I would at present draw attention to, but to the properties of certain drugs which I have found generally useful.

Believing that the disease was due to a micro-organism, the nature of which was described in *The Lancet* for April 25th, 1896, and failing an antitoxin, I was led to employ a number of the newer drugs, possessing high eliminative powers, many of which have been found useful in other microbic conditions. I refer more especially to those belonging to the phenol group of antiseptics, and the chief drug of this group which I have found useful is creasote, or some of its compounds or derivatives. As creasote and its active principle guaiacol, on internal administration, produce symptoms of great intestinal irritation, owing to their caustic and albumin-coagulating powers, one in practice is led to use some of their compounds which are free from this drawback, and, luckily for humanity at large, we have three well-known drugs which are available. These are creasotal, guaiacol carbonate, and benzosol. (1) Creasotal or carbonate of creasote is formed by the combination of creasote and carbonic acid. The dose is 5 minims daily, increased to about 20 minims, as the patient becomes accustomed to it. It may be administered in capsules, or else made into an emulsion with the yolk of an egg. In the intestines it decomposes into creasote and carbonic acid. (2) Guaiacol carbonate is an insoluble, tasteless, odourless, white crystalline powder. It is easily taken by the mouth in the form of powder, or preferably in cachet or pill. Given in dozes of 5 to 15 grs. three times a day, rapidly increased to six times, its effect is soon marked. (3) Benzosol (benzoyl-guaiacol) is a tasteless, odourless body. The dose is 4 grs. three times a day, increased to six as the patient becomes used to it. Of these three compounds I now almost entirely use guaiacol carbonate as being the most reliable, easily taken, and as giving the best results. Benzosol is feebler in its action, and does not produce an effect so quickly, but its slightly cheaper price is of advantage in some cases. Creasotal,

being an oily fluid, is objected to by many, so that it has come to be my routine treatment to employ the guaiacol carbonate compound. Given then, as described, its effect is soon marked. The patient almost from the first begins to improve, the pains become less, the swellings diminish, and the heat of the skin over the joints goes, the general body temperature falls, the facies, so noticeable in marked cases, becomes less pronounced, and, in fact, so obvious is the improvement, that the patients often say they feel quite different beings. That the circulation is improved we readily see, for we have no longer the cold, dripping, blue and asphyxiated-looking hands, but they have become warm and almost natural in hue. Patients who have been incapable of moving can now do so, possibly with a stick, but often without. They are no longer subjects of insomnia, and their food is taken with relish, and is properly assimilated. I do not say these results are gained in a day; on the other hand, they may only result after prolonged and constant care, but that they do occur is infinitely more encouraging than what we have been taught to expect. Some few cases appear to resist all treatment, but even these often write long after they have left Bath, and state that their improvement has progressed continuously, and therefore we have come to be much more hopeful in all cases. Even in the advanced cases, with great destruction of tissue, constant care and the free use of guaiacol, combined with bathing and dietetic regimen, will ultimately subdue them. That the improvement is permanent, I believe, but it is too early to say definitely. The only complication which at present seems to tell against the free use of guaiacol carbonate is nephritis, and this we understand when we consider that it is through the kidneys that its elimination takes place. I am not as yet quite convinced of the danger of guaiacol, even when there is nephritis, but as yet the evidence is very contradictory. Equally good results have been obtained with the other drugs, but, for the reasons already mentioned, I do not use them so largely.

Combined with the above for internal administration, I use for external application, in varying proportions, pure guaiacol and olive oil. When applied thus, it at once produces a feeling of numbness, not only of the skin over the joint, but it also relieves the pain in the joint itself. It gives rise to a sense of coolness and a feeling of relief. This effect varies with the strength of the solution used and its frequency of application, and it becomes more marked with every application, whilst the joint condition improves in the most unexpected way. But, above all, the great thing is the relief from pain and the reduction in the joint temperature. It was first used as an application in rheumatic joints by M. Desplats. As a rule,

I apply it in equal proportions with olive oil, painted on to the affected joints nightly. If smell be objected to, 5 to 10 minims of oil of cloves to the ounce masks it to a certain extent. If the pain in the joints be very severe, it may be applied night and morning, and, as the patient becomes accustomed to it, the paint may be increased in strength. If painted on too strong it is apt to blister the skin, but, so far, I have found no evil effects arise from thus blistering the parts. Should it produce local erythema or postulation, as it occasionally does, it has been my habit to withdraw its use for a time. So far I have observed no evil constitutional effects, and it is stood well by the old and young alike. Should it be desirable to produce some counter irritation of the skin, it can be combined with the tincture of iodine in varying proportions. My experience, however, does not lead me to expect more benefit from this than from the guaiacol and olive oil alone.

In one of the worst and most acute though typical cases I have ever seen, the patient for part of the time could not bathe, so the waters alone could not account for the improvement. [The details of the case are omitted.]

It is, of course, a question how much the thermal treatment lends its aid to the total benefit derived by a course of treatment carried out as I have described, but I can positively state that the combined treatment, by drugs and by thermal waters, is infinitely superior to what is got by waters alone. Whether the drug treatment alone will answer as well, I cannot say, and, looking at the nature of the disorder, I doubt it. Patients present themselves here in the hopes of deriving benefit from the waters, and I have not, so far, felt myself justified in withholding them from them. But it is with every confidence that I would now draw the attention of those interested in this disease, and in a position to carry it out, to this plan of treatment, and to the results obtained therefrom.—*Edinburgh Medical Journal*, January, 1898.

12.—MERCURIAL INUNCTION IN SYPHILIS.

By W. WHITLA, M.D.,

Professor of Materia Medica and Therapeutics, Queen's College,
Belfast, &c.

[The following is taken from Dr. Whitla's interesting paper on the Treatment of Syphilis. See also *Retrospect*, Vol. cxvi., p. 31 :]

The ointment of the *British Pharmacopœia* is much too strong, and the German *Pharmacopœia* preparation is preferable in every

way. It contains one part of mercury rubbed up with two parts of a mixture of lard and suet. With such an ointment every case of syphilis can be treated more certainly and more rapidly than by all plans of mouth medication. It is very inconvenient, requires care, often the aid of an attendant, and the free use of baths; it exposes the secret of the patient's malady to those about him, and soils his bed-clothes and undergarments. These are reasons which will probably always operate in preventing the inunction plan from becoming a routine method of treating syphilis. Nevertheless, it is the best of all ways for treating the disease, and in some cases it is absolutely essential to the patient's life that he resort to it. By a careful attention to the state of the patient's mouth enormous quantities of the antidote to syphilis may be introduced into the system without producing any effect whatever beyond the rapid cure or total disappearance of all syphilitic symptoms. I do not know of any more marked and unmistakable result in therapeutics than the results of this method in severe cases of syphilis. It may be used with advantage in all cases, but there are cases where it becomes the duty of the physician to insist upon the method by inunction:—(1) In all grave attacks of the disease where the symptoms set in with unusual severity it should be resorted to. (2) In all cases where time has already been lost and the patient has not sought advice till the secondary phenomena have been in full swing for several weeks, as, for example, when the patient first seeks treatment for a retinitis, iritis, or otitis. (3) In nearly all cases of cerebral syphilis and where spinal symptoms supervene at an early stage. (4) In syphilis appearing under certain conditions after marriage. (5) In so-called malignant syphilis.

To carry out the inunction method properly it is almost essential that the patient gives himself up entirely to the treatment. This is the explanation of the very superior results obtained by the use of the ointment. One cannot say that in order to use inunction the patient must give up all business and keep to his house, but if he is able to do so, larger doses can be safely administered and much time saved. My own observation leads me to believe that where a patient, especially in the winter season, insists upon attending to his ordinary business, as good results can be obtained by grey powder, the green iodide, or calomel by the mouth. But if he can devote himself to 75 or 100 inunctions, as carried out at Aix-la-Chapelle, we can confidently assert no better or more certain results can possibly be obtained in the treatment of syphilis. During the carrying out of a mercurial course by the mouth where the secondary signs do not show a tendency to disappear great benefit may be obtained by suspending the pills and beginning

inunctions. In the late secondary stage it is often an excellent plan to rub in the ointment and give the iodide by the mouth. The plan cannot be properly carried out without a good bath (to 98° F.) and a mild rubbing with carbolic soap, and occasionally the sponging of the body with weak permanganate solution. After thoroughly drying with warm linen towels, the ointment (33 per cent.) and recently manufactured, may be rubbed in. As regards dosage a good average rule will be 1 drachm or 60 grs. of this ointment to be used daily. At Aix the practice is to rub in 38 grs. of the ointment twice a day into the different regions of the body. Thus the professional rubber takes the requisite amount of the drug, and after squeezing it between his palms, he rubs it upon the first day into the skin over the inner sides of both arms, upon the second day the skin over the inner aspect of the thighs is attacked, and so on, winding up with the back on the sixth day, and a rest upon the seventh. After each rubbing the patient puts on a flannel gown, and without washing goes to bed. The warm bath is resorted to in the mornings. In severe cases double this amount of the ointment may be rubbed in. Thus in cranial syphilis I have resorted to ʒj morning and evening for some weeks without producing salivation. As in the plan of mouth administration, each case must be closely watched and the dosage modified by the effects produced. Twenty to thirty minutes generally suffice for each inunction, and hairy parts must, as far as possible, be avoided, or shaving may be resorted to. Taylor divides the surface of the body into eleven regions, which are all vigorously attacked by the ointment. An ointment of white precipitate (6 per cent.) may be applied to the scalp and beard. In this way there can be little doubt that his plan is better than the older methods. It has the one drawback of demanding the aid of a rubber or attendant, as the patient cannot possibly reach the dorsal regions. With care, in severe cases, as many as 100 inunctions may be accomplished without producing salivation, but in practice it will generally be found that the rubbings must often be suspended for a few days at a time in the presence of signs of threatening saturation; and it must never be forgotten that salivation may more suddenly appear and be more severe than in the mouth administration. Hence the necessity for greater care and watchfulness and scrupulous attention to the state of the mouth and gums. It does not appear that any special virtue attaches to the sulphur baths or waters which are so often made a portion of the routine of inunctions in various Continental resorts. Mercurial plasters, soaps, fumigations, thermal and other baths as a rule are not suitable for routine, though all-valuable under certain conditions.—*Montreal Medical Journal, February, 1898.*

13.—ABSTRACT OF A REPORT ON BUBONIC PLAGUE IN BOMBAY.

By KHAN BAHADUR N. H. CHOKSY,
Extra-Assistant Health Officer, Bombay Municipality.

[We take the following from this important abstract :]

The mortality was highest in February, 1897, when 81·64 per cent. of all admitted died. Of the races, the Hindus suffered most, their mortality reaching 75·46 per cent. ; next to these came the Jews, whose mortality was 75·0 per cent. Mussulmans suffered least, their mortality being 66·38 per cent. As a rule, children bore the attack better than adults, and women better than men. Of trades, the mortality was highest among blacksmiths, carpenters, cartdrivers, and beggars ; of the first three classes every one attacked died. The clinical report tells us that a third of the cases admitted were in a moribund condition. Six types of the plague, as follows, are enumerated by the author :—(1) *Pestis minor* ; (2) *pestis ambulans* ; (3) *pestis simplex bubonica* ; (4) *pestis septicus* ; (5) *pestis pulmonalis* ; (6) non-typical forms of plague. Of these, the pulmonary form, which is usually unaccompanied with bubonic swelling, is the worst. It “is a frightful source of spreading the infection from the sputum, which is loaded with plague bacilli.” Referring to the condition of the patient the author declares that “Aphasia, with high fever, and the peculiar aspect of the patient, would be a strong presumption in favour of plague.”

Of temperature we learn—“The range of temperature, except when it is very high, is no criterion of the severity of the case ;” and that “the temperature generally ends by lysis—crisis being exceptional. When the latter is observed, and it has a fall of from 4 deg. to 5 deg. or 6 deg., it almost invariably indicates collapse and impending death.” Sometimes it is observed that on the second, third, or fourth day the temperature falls to normal or thereabouts, rises suddenly and again falls, the case ending fatally with the second fall. After the buboes are incised, the temperature may show a slight evening rise, but in ordinary cases, when suppuration and sloughing are not extensive, and there is no retention of pus, it soon falls to normal, and continues so until complete recovery. The bubo may appear before, with or after the rise of temperature, but, as a rule, its appearance is coincident with it. The size of the bubo was quite independent of the gravity of the case, small glands the size of a pea have proved fatal ; on the other hand, cases with large and diffused buboes have turned out to be apparently mild attacks. Of the 939 cases admitted, 8·83 per cent. had buboes. Pulmonic cases formed 8 per cent. of all admitted to the hospital.

More than half of the 856 bubonic cases had the buboes in the femoral and femoro-inguinal regions. Once the buboes have appeared they take one of two courses. They either resolve or end in suppuration, or suppuration and sloughing. Suppuration is, however, the more frequent method of termination. Delirium, if present, may be acute and active or low muttering, as in the typhous condition. Hallucinations were not uncommon.

Of the circulatory system we read :—"In no other infectious disease does the pulse—an index of circulation—present so many variations in force, frequency, volume, and tone." In the majority of cases the pulse is compressible, extremely feeble and very frequent. Dicrotism in some cases is extremely well marked, and in advanced cases may really be considered a trustworthy diagnostic sign. The heart sounds have always been found to be clear, in some cases the first sound may be weak, and the second slightly accentuated, and no bruits or murmurs were audible. Pains in the præcordial region and occasionally palpitation may be complained of, but practically the patients had very few complaints about the circulation. Bacteriological examination was systematically carried out. It was observed that in many undoubted cases of plague no plague bacilli could be detected or grown from the blood, and it appeared as if in such cases they were confined to the lymphatic system alone. Most of these cases eventually recovered. Increased frequency of respiration is one of the symptoms that attracts early notice in the plague, and in which, besides the lungs, the larynx also becomes involved. In some instances the tonsils and pharynx become covered with a pseudo-diphtheric membrane, which extends to the larynx and trachea. Edema of the lungs is the usual cause of death in the non-bubonic cases, pneumonia in such cases being secondary and responsible for a comparatively small number of deaths. The digestive system suffers greatly, hiccough is occasionally a very distressing complication, and not unfrequently is found associated with meningitis. In women menorrhagia and metrorrhagia were usual, and pregnant patients aborted.

The following diagnostic points are given :—(1) The presence of fever, high or low ; (2) a quick, easily compressible pulse ; (3) a furred tongue ; (4) the aspect of the patient by facies pestica ; (5) the peculiar hesitating, broken speech ; (6) the presence of a bubo ; (7) suffused eyes ; (8) the presence of cough, with rusty or hemorrhagic sputum. Prognosis in the pulmonic type of plague is the least hopeful, as very few cases recover. Hemorrhage or hemorrhagic discharges are also grave. After five years of age the percentage of deaths increase with each year of life. Of the causes of death the most important is failure

of heart's action, and it may be either sudden or gradual. Convalescence is extremely tardy, and patients go on for a long time, day after day, without making the slightest progress. Among the sequelæ of plague may be noted aphasia, which is generally temporary, peripheral neuritis, irritability of temper, imbecility, and insanity. No cases of genuine relapse have been observed. The preventive measures were radical and much to be praised. "All clothing and other belongings to the patients were destroyed by fire, and all the sheets, blankets, pillows, quilts, &c., used for the patients, were similarly treated."

The death of Dr. Davda three weeks after he had been inoculated with 10 c.c. of Dr. Yersin's serum was deemed a sufficient proof of its uselessness as a preventive. Of the curative treatment the best results were obtained from strychnine and morphia, both of which could be pushed to more than the usual limits of tolerance. The diet was essentially a milk one. Pyrexia was treated with cold sponging and the application of ice-bags. No remedy gave such good results in delirium as morphia. Rum was the principal stimulant. Infusion of digitalis was freely given in cases of cardiac irregularity. Vomiting and hiccough, which were at times very persistent, were treated with cocaine.—*Medical Press and Circular*, March 23, 1898.

14.—A SIMPLE METHOD OF CHECKING CHOLERA IN INDIAN VILLAGES.

By E. H. HANKIN, M.A.

[The following is taken from Professor Hankin's paper, the remaining parts of which are mostly argumentative :]

More than three years have now elapsed since I commenced experiments on the treatment of wells with potassium permanganate as a means of checking water-borne cholera outbreaks. The method has now come into extended use, and I have gradually accumulated evidence that, in my opinion, is sufficient to justify a positive conclusion as to the utility of the method. If cholera microbes are present in a well from which water is constantly being drawn, it is clear that they will vanish from the well unless they reproduce at a greater rate than that at which they are being removed. It appeared to me that it might be possible to lower the rate of reproduction of cholera microbes below this necessary minimum by the employment of potassium permanganate, and that in this way it might be useful in checking cholera outbreaks. I attempted to test this possibility in the village of Shahgunj, near Agra, while a limited outbreak of cholera was present. A number of wells

in this village were subjected to a daily bacteriological examination as to the presence of the cholera microbe and its allies. Of these wells half were treated with potassium permanganate, a sufficient quantity being added in each case to give a pink colour to the water that lasted for several hours. The remaining wells were left untreated. It was found that cholera microbes or "vibrios" vanished within two or three days from the treated wells, while they remained for at least a week in the wells that had not been treated. The method I half recommended is that every well in a cholera-infected village should be treated with a sufficient quantity of potassium permanganate to produce a pink colour that lasts till the following day. Generally 2 or 3 oz. of permanganate will be found sufficient for each well, but the quantity will vary greatly with the amount of organic matter present in the water. If the well is very foul it may be necessary to dissolve 8 oz. or more of permanganate in its water. I have also suggested that one well should be treated with an extra large quantity of permanganate and its water immediately pumped out until the red colour has nearly vanished. The inhabitants should be instructed to use only the water of this well until the following day, when the water of the remaining treated wells will be fit to drink. Surgeon-Major Thomson, Sanitary Commissioner to the North-West Provinces and Oudh, who has had great practical experience of the method, tells me that it is necessary to repeat the treatment every three or four days as long as the danger of cholera appears to exist. In the case of wells in cantonments, I have lately recommended that after the addition of permanganate an equal quantity of hydrochloric acid should be poured into the well. The addition of acid greatly increases the activity of permanganate.

For the purposes of scientific discussion, I propose to quote, in the first instance, only cases in which the treatment of the wells was carried out by European officials. Down to the end of 1895 I was able to collect 50 such instances. Out of these 50 instances in 11 cases no success was recorded. An analysis of these 11 failures shows that in every case only a portion of the water supply was treated. In 3 out of these 11 cases evidence was obtained that nearly all of those attacked after treatment of the wells were persons who had only drunk not-treated water. In one case the treated well was closed, thus driving the inhabitants to use water from other sources, which were shown by later research to contain the cholera microbe. Of the remaining 39 outbreaks, in 3 cases the treatment of the wells was only commenced more than thirty days after the appearance of the cholera, at a time, that is to say, when it is possible that the disease had already run its natural

course. This leaves us with 36 outbreaks, out of which in 16 cases no further attacks were reported after treatment of the wells. Of the remaining 20 outbreaks, in 10 some "later cases" occurred. By this I mean that attacks were reported as having occurred later than three days after the date of treatment of the wells. In the remaining 10 cases, attacks only occurred during the first three days after the use of permanganate, that is to say, during the time covered by the probable incubation period of the disease. The above-mentioned "later cases" were few in number, generally occurring on the fourth or fifth day after treatment of the wells. In one village it was noted that of the two later cases one was that of a man who had refused to allow his well to be treated.

Since collecting the details of the above 50 outbreaks I have received but few detailed accounts of the results of employing the method, though its use has widely extended. But during my recent visits to Bombay I met many sanitary and medical authorities from different parts of India, every one of whom who had used the method was convinced of its utility. This method of purifying water by means of permanganate is by no means new. Permanganate was used in drinking water during the London cholera epidemic of 1866. Its use has been advocated by many sanitary authorities before and since, such as Parkes and Surgeon-Colonel King, the present sanitary Commissioner of Madras. I am under the impression that it was used more especially with the object of freeing water from organic matter, and that when it was proved that cholera was not due to organic matter as such, but to a specific microbe, the use of permanganate to a great extent went out of fashion, until attention was again drawn to the subject by a paper that I published in November, 1894, in the *Indian Medical Gazette*, and in a paper read in the following month before the Indian Medical Congress. The method is of interest from the scientific standpoint, as its success appears to give the last proof of the truth of the view, for long so ably advocated by the late Mr. Ernest Hart, that cholera is in most cases a water-borne disease.—*Indian Medical Lancet*, March 1, 1898.

15.—DYSENTERY : ITS FORMS AND TREATMENT.

By Surgeon-Captain W. J. BUCHANAN, M.B., B.Ch., I.M.S.

[The following is taken from Dr. Buchanan's paper :]

Dysentery is found in three forms—mild, acute, and chronic. The mild form is very common among natives of India. It consists in a catarrhal inflammation of the great intestine, with

outpouring of mucus, more or less bloodstained, usually of a rosy-pink colour. The process usually subsides in a few days. The stools generally contain fæcal matter. It is brought about by slight causes, as errors of diet, bad cooking, chill, &c.

The acute form is the disease described as dysentery in all the text-books. It is useless to recapitulate the well-known symptoms. This form I look upon as a specific disease, probably due to a microbe, although it cannot be said that bacteriologists have with any certainty identified the offending micro-organism. That this form is communicable from sick to healthy is agreed upon by most medical officers in India, especially under conditions of overcrowding and bad sanitary arrangements. That it can be spread by means of impure water is shown by numerous instances. This is the form of the disease which was formerly very common in armies, camps, ships, and prisons, and we have recently heard of it among the defeated Greek troops in Thessaly. For years dysentery has been only too prevalent in Indian gaols, but very great improvement has of late taken place, owing, I believe, to various sanitary reforms, among which are better cooking, a purer water supply, and in Bengal the prophylactic, daily issue of quinine; so that now in some of the largest gaols in that province dysentery is conspicuous only by its rarity. This form of dysentery is the one which may be supposed to be connected with liver abscess: but gaol statistics in Bengal show that, though dysentery used to be very common, liver abscess has been very rare.

The third form of dysentery, commonly, if inaccurately, known as "chronic dysentery," is the most formidable form of the disease. It is usually found in association with starvation, malaria, scurvy, and tuberculosis. In such cases the dysentery is only an episode, frequently the terminal one, in a case of tubercle of the lungs or of malarial cachexia. There is nothing specific about this form. The colon, and especially the sigmoid flexure, shows post mortem a mass of granulating ulcers or a general grey sloughing extending for several feet. In malarious cases all the well-known symptoms of malarial cachexia, so graphically described in Davidson's "Tropical Hygiene," are present. The disease is also found in connection with scurvy; but the so-called scorbutic symptoms often found at the end of an unhealthy, fever season (August to October) are certainly malarial rather than scorbutic, and anti-scorbutic remedies have over and over again been found utterly useless, whereas these symptoms can to a very great extent be prevented by the use of quinine as a prophylactic, as the experience of recent years in the gaols of Bengal shows. This cachectic disease is also frequently found in cases of tubercle of the lung in Bengal. I have a list of at least thirty cases where chronic

dysentery supervened in the course of tuberculous disease of the lungs. In these cases the lung disease may be overlooked, especially in out-patient practice, as the patient usually complains only of the bowel complaint, and lung symptoms are not prominent, though always to be discovered on examination of the chest. In such cases often the great intestine will be found a mass of ulceration, the small intestine healthy, and one or more cavities in either of the lungs. This "chronic dysentery" I look upon as part of a cachectic condition rather than a disease *sui generis*. I have in another place attempted to define it as follows:—"A cachectic condition characterised by increasing debility, alternate dysentery or diarrhoea, or it may be constipation, with more or less anæmia, œdema, and dropsy, occurring in patients who have been subject to repeated attacks of malarial fever, or are subjects of tuberculosis or scurvy, or have suffered from a chronic insufficiency or unsuitability of food, or from actual famine." It is also sometimes the result of an acute attack or of repeated attacks of dysentery, for dysentery is a disease which is very apt to recur, especially in people saturated with malaria.

Treatment.—The mild form is easily cured by rest in bed, bland food, and a dose of castor-oil. In some cases bismuth and Dover's powder may be given. Care must be taken about the return to solid food. In the acute form, in Europeans or otherwise healthy persons, I have great faith in the time-honoured use of ipecacuanha in large doses. Give castor-oil the night before, and after the bowels have moved in the early morning give tinct. opii (℥ xx.), followed in fifteen or twenty minutes by ipecacuanha in a dose of 25 or 30 grains. Let the patient lie undisturbed for four or five hours. Should vomiting occur, repeat the ipecacuanha in half an hour. If the stool has not much changed for the better within twenty-four hours, repeat the ipecacuanha. Frequently it will be found after one dose that a great change for the better has occurred. This treatment has now been in vogue for almost forty years, and has not been superseded. Ipecacuanha in pill, in doses of from 3 to 5 grains, is utterly useless, and can only succeed in the mild form, where it is not required. In cases where ipecacuanha has failed owing to constitutional disease or other cause the combination recommended below may be tried with confidence.

In the treatment of the most troublesome form of dysentery—the chronic—we have the constitutional disease present to consider, and the malaria must be counteracted with quinine. The scurvy and tuberculosis, if present, will need suitable treatment; but for the bowel complaint in all forms of dysentery I wish to call attention to the following combination of drugs,

which I have found successful in a very large number of cases :—
 ℞ Liq. hydrarg. perchlor., ℥xv. ; tinct. opii., ℥v. ; tinct. nucis vomicæ, ℥ij. ; glycerin., ℥xx. ; aq. ad ʒj. ; to be taken three or four times daily, and continued in chronic cases for two or three weeks if necessary. A somewhat similar combination of perchloride and cannabis indica has long been in use in India, but I find results from the above combination more permanent—that is, the number of cases treated in this way which recur are far less than in any other method of treatment with which I am acquainted. I have had special opportunity of attending to this point in a large gaol with 1,200 prisoners, most of them undergoing long-term sentences. Under other forms of treatment it is not unusual to find a patient come back within a week or so of his being discharged as “cured.” In chronic cases it is useful to give bael (*Aegle Marmelos*) in the following way :—Take the fruit, crack its hard rind, boil it in water, and eat the soft lining substance with brown sugar. The fibrous septa and seeds must be rejected. Or bael sherbet may be made from the ripe fruit, carefully strained, and acidulated with a little tamarind or milk curds (tyre). This sherbet, taken occasionally, is a pleasant laxative ; if taken regularly, it becomes constipating. Bael is also used as an astringent in dysentery. In this case the fruit is dried in the sun, finely powdered, and taken with milk or water. A preparation of koorchi (*Holarrhena antidysenterica*) has a great reputation in chronic dysentery in India. Though I have had good results from it, I believe it to be little more than a tonic astringent. Dr. Maberly (*The Lancet*, February, 1897) has called attention to the use of an infusion of *Monsonia*, a plant found in South Africa. A closely allied species, *Monsonia Senegalensis*, is found in India, but I am not aware of its having been used. In dysentery in children in India I know of nothing equal to Dr. Birch’s “castor-oil emulsion” in small and repeated doses.—
The Practitioner, December, 1897.

16.—THE GENITAL MANIFESTATIONS OF MUMPS.

There are some particulars regarding the manifestations of mumps in the genitals about which authors are not agreed. One of these particulars is the situation of the inflammation, whether in the testicle or in the epididymis. Dr. Becigneul, a hospital physician of Nantes (*Gazette médicale de Nantes*, October 30), has lately reported his observations of an epidemic of mumps in which he had under treatment sixty-three adults affected with the disease, all but one of whom were soldiers between 18 and 27 years old. In sixteen of them the genitals

were implicated, and this proportion, the author thinks, is about the usual one. In three cases one testicle alone was affected; in eight the inflammation attacked one testicle together with the epididymis of the same side; in one both testicles and both epididymides were involved; in one the left testicle and both epididymides were affected, the right testicle being spared; in one the left epididymis and both testicles suffered, the right epididymis escaping; in one the left testicle and the right epididymis alone were attacked; and, finally, in one both testicles and both epididymides escaped, and the involvement of the genitals was limited to inflammation of the funicular portion of the vas deferens of each side.

Some authors, says M. Becigneul, go so far as to say that if epididymitis occurs in an attack of mumps it is a sign of urethral disease and not a manifestation of the mumps, yet not one of his patients, he affirms, had gonorrhœa or any urethral discharge whatever. One of them had been seized with orchitis before his admission, but, except for that, the genito-urinary organs of all of them, subjected to careful examination, appeared absolutely healthy. Atrophy of the testicle, according to the author, occurs in about two-thirds of the cases of orchitis originating in mumps, but in his cases this proportion was much exceeded. When the patients were discharged, he says, which was always within a month from the time of the appearance of the genital complication, their genitals were examined carefully, and the results were almost identical. The epididymis had resumed its normal condition; the testicle seemed to have preserved its ordinary dimensions, but, compared with a testicle that had not been affected, it was incontestably softer and more flaccid. In only one instance was the testicle that had been inflamed found smaller than its fellow. In the two cases of epididymitis without orchitis the testicles had their ordinary size and consistence, and the same was true of the case of inflamed vasa deferentia. As to the ulterior results, the epidemic seems to have occurred in March, and on the 28th of October M. Becigneul was able to show nine of the patients at a meeting of the Société médico-chirurgicale des hôpitaux de Nantes. One of them, who had had unilateral orchitis without epididymitis, still showed softening of the left testicle, the one that had been affected, but it was about as large as its fellow. Five others had had inflammation of the testicle and epididymis of one side only; in four of these cases the testicle was still soft, flaccid, and manifestly smaller than its companion. In one of these four cases the epididymis remained tender, and it was the seat of spontaneous pain when the man was fatigued. The fifth of these patients, whose testicle had been found slightly softened forty days after the onset of the complication, now presented

two testicles of normal appearance. The testicles of the man who had had bilateral orchitis and epididymitis, examined a month after his recovery, had been found softer than normal; they were still soft, flaccid, and manifestly atrophied, especially the left one, which had been the more severely inflamed, and both epididymides were sensitive on pressure. In the man who had had inflammation of the vasa deferentia both testicles and both epididymides were absolutely normal, and palpation of the spermatic cords was not painful; the only abnormality observed was slight dilatation of the superficial vessels of the left side of the scrotum.—A leader in the *New York Medical Journal*, November 27, 1897.

17.—ACUTE GRAVES'S DISEASE.

In a recent number of *Brain* a very unusual case is described under the above title by Dr. Arthur Foxwell. The patient was a woman, apparently unmarried, aged 41 years, admitted to hospital on account of weakness, anorexia, and rapid wasting. The family history was good, and there was no neurotic tendency to be traced. Her previous health had also been good. The only significant point was the history of a strain while rowing, ten years before her admission. This had given rise at the time to pain in her left side, and she had occasionally suffered from this pain ever since. The illness for which she sought admission had commenced six months before with weakness and stiffness in the joints on rising in the morning. Three months later she began to suffer from morning nausea, but without vomiting. About a month after this enlargement of the thyroid was first noticed. Prominence of the eyeballs was also observed at this time, but the patient herself was unaware of it. For a month before admission she had suffered from frequent vomiting, and for two weeks she had been unable to take any solid food. She had also been so weak as to be unable to walk, and she had perspired profusely whenever she fell asleep. On admission she was found to have slight prominence of the eyes, and the left pupil was larger than the right. The thyroid was enlarged, especially the right lobe, over which a systolic murmur was audible. The cardiac impulse was diffuse, and there were pulmonary, tricuspid, and mitral systolic murmurs. In the first and second left intercostal spaces there was an area of circumscribed dulness, thought to be due to an enlarged thymus. Pericardial friction was also heard over the sternum between the third and fourth cartilages on this side. There was evidence of slight consolidation at the apex of the right lung. The urine showed no abnormality in either quality or quantity. The

history of the case after admission may be briefly recorded. Troublesome sickness made a resort to various modes of artificial feeding necessary, but the patient rapidly wasted, the cough became troublesome, the thirst extreme, and she died exhausted about nine days after her admission. Briefly the symptoms were—(1) The three cardinal symptoms of Graves's disease; (2) enlargement of the thymus; (3) dilatation of the left pupil; (4) evidence of consolidation of the right apex, cough, pyrexia, &c.; and (5) extreme restlessness. At the necropsy the thymus was found to be considerably enlarged superficially, but extremely thin, and there was solidification of part of the apex of the right lung. The heart was not enlarged, and there was no pericarditis or valvular disease. There was no marked change in the ganglia of the cervical sympathetic. The brain was slightly more adherent than usual to the skull cap. There was a patch of yellowish fibrous thickening over the foremost part of the vermiform process of the cerebellum, small in extent, but surrounded by a considerable area of thickened pia mater. There was also similar inflammatory sclerosis of the pia covering the floor of the fourth ventricle. There was acute softening of the surface of both optic thalami, excessive vascularity of the surface of the brain, of the internal capsule, and also of the cerebellum and medulla, leading to the occurrence of occasional small hemorrhage. There were also sclerotic changes involving portions of the tegmen, the pyramids, the gracilis and their nuclei, and the nuclei of the tenth nerves. It is exceedingly difficult, as Dr. Foxwell remarks, to connect those changes with the various symptoms which were present, but it seems certain that the case is not to be regarded as an uncomplicated one of Graves's disease.—*Leaderette in The Lancet, February 5, 1898.*

18.—EXOPHTHALMIC GOITRE.

By T. LAUDER BRUNTON, M.D., F.R.S., Physician to St. Bartholomew's Hospital, London.

[The following is taken from Dr. Brunton's clinical lecture:]

The three most important symptoms are :—(1) Protrusion of the eyeballs; (2) enlargement of the thyroid; (3) rapidity of the heart's action. On examining the patient more closely however, we may find that there are still other symptoms affecting (1) the nervous system generally, (2) the eyes and the circulation. Sometimes these symptoms affecting the nervous system appear before either the changes in the heart, the changes in the eyeballs or the changes in the thyroid. The nervous symptoms are :—(1) Increased irritability; (2) increased

nervousness. On examining the eyes also it may be noticed that, in addition to the apparent protrusion of the eyeballs, in some cases the upper lid is more retracted than the lower, so that there is a large ring of white between the upper margin of the cornea and the upper lid. Along with this retraction of the upper eyelid and the greater width of the space between the lids, one observes also that the eyes wink much less frequently than in the normal condition. These two symptoms together, the greater opening of the space between the lid and the unwinking-eyes, are known as Stellwag's symptom. A more important symptom still was noticed by von Graefe, and that is the want of co-ordination between the eyelids and the eyeball. Occasionally, too, we find that the eye when turned to one side or another does not move so readily as it ought to do, and when we make the patient converge his eyes upon the finger held a short distance in front of the face they do not remain steadily convergent, but one or other remains directed to the finger and the other moves aside. Other affections of the eye have been described, more especially loss of power in the various muscles of the eyeball, and certain affections of the pupil, but it is extraordinary how often you find that the pupil is hardly affected at all. Another symptom that one notes in regard to the vessels is subjective fulness and heat. Patients usually feel very hot, and this feeling, although it may sometimes be accompanied by actual rise of temperature, very often is not so accompanied. Diarrhoea in these cases is sometimes almost choleraic, and apparently depends upon some deep-seated disturbance of the nervous system, and is exceedingly difficult to treat. There is yet another symptom connected with the nervous system, which consists in a constant rapid tremor of the arm. The tremor varies from four to ten vibrations per second. On pressing over the thyroid you will be able to hear a regular well-marked systolic bruit, and on putting your hands over it you will feel that it pulsates freely.

This disease is much more common in women than in men. As a general rule there are five to ten cases in women for every case among men. It generally comes on in the period of youth or maturity; it is not frequent amongst children nor amongst elderly people. Its onset is often moderately slow; sometimes the ingravescence of the symptoms may continue for a couple of years; sometimes, however, it comes on with great rapidity.

It is very hard—and I do not think that I shall succeed at present—in completely disentangling those symptoms which are due to increased internal secretion and those which are due to primary nervous derangement. For first of all, before we get increased internal secretion something must have made the thyroid itself enlarge, and in all probability the first thing to be

affected is some part of the cerebrum. In the first place we get a shock which acts upon the nervous system generally, and through it appears to react upon the thyroid and upon other parts of the head and neck which are innervated by the sympathetic. The probability is that the lesion really is somewhere in or near the medulla oblongata; and Filehne, of Breslau, was able after injuring the restiform bodies to produce in animals the three cardinal symptoms of the disease, namely, exophthalmos, enlarged goitre, and rapidity of the heart, although he very rarely, if ever, succeeded in getting all three in one animal. The prognosis in these cases is a very uncertain one. The remark has been made that cases of exophthalmic goitre are not very often seen in the post-mortem room, and this is wonderfully true. A great number of these patients go on for a number of years, eight, ten, or more, and then they may either gradually recover, or they may die from some intercurrent affection. Some of them, however, last only a short time.

One of the ways in which patients are carried off is by the choleraic diarrhoea. Another cause of death is some intercurrent disease. One patient whom I watched for about ten years remained very fairly well, sometimes a little better, sometimes a little worse, but able to go through all her duties, to attend to her family, and entertain her friends, although she did not like the excitement of society. Unfortunately she contracted pneumonia. In all probability, as the pneumonia was not a severe attack, she would have recovered from it had it not been that the heart was too feeble to stand the increased strain put upon it.

Well, now, what are we to do to prevent death? How are we to treat our cases? The way in which I used to treat them was by putting them upon chloride of calcium, prescribing about a drachm of the liquor three times a day, and as a rule they seemed gradually to improve. I usually saw them for several months at intervals, and then I lost sight of them, which I took to mean that they had become so much better that they did not want to see a doctor any more. Lately, however, we have been treating them either with thymus or with extract of the supra-renal capsules. The extract of supra-renal capsules is the substance that seems most indicated in the treatment of such cases, because while the thyroid gland or its extract dilates the vessels, the extract of supra-renal capsules has perhaps the most powerful effect in contracting the vessels of any substance we know. In one case that I have been treating lately in the country with extract of supra-renal capsules there has been a very marked improvement indeed. Whether the patient is going to get well or not I cannot say, but she has very greatly

improved. For one thing, the nervous symptoms appear to have gone, as she is no longer so frightened, and no longer so irritable. She seems also to have increased in strength, and apparently is on the way to recovery; but, as I said, these patients are apt to go up and down, and unless you find that they have actually got well you cannot say precisely what is going to happen, and one must remember that the symptoms do sometimes after a few months spontaneously begin to get less, and finally disappear.

Another method of treatment is galvanisation applied to the sympathetic. The usual practice is to put one electrode, very often the negative, on either the spine, the sternum, or the sacrum, and apply the other electrode just under the ear on either side. Under treatment of this sort a certain amount of improvement may take place, but I confess that I have been rather disappointed in it, and of late I have not used it very much, trusting much more to the use of such things as chloride of calcium and supra-renal tabloids. In addition to these definite remedies, one ought to be careful of the general health of the patients. All excitement is bad, and it is necessary to insist that they shall take things quietly, that they shall avoid worries as much as possible, and that they should not subject themselves to overstrain. You can readily see that overstrain of any kind, mental or bodily, is not good for their heart. Besides this, especial care must be taken to guard against chills, because with a heart beating so rapidly as it usually does in such cases, if the patients catch a chill, get a bronchitis or a pneumonia, then the result may be fatal, although they might have pulled through if they had not been suffering from this disease.—*St. Bartholomew's Hospital Journal, December, 1897.*

19.—THE TREATMENT OF OBESITY.

By Prof. A. ROBIN.

[The following is taken from a leader in the *Boston Medical and Surgical Journal*, January 27, 1898:]

A paper "On the Treatment of Obesity," in which he embodies his experience in the management of this common affliction, was contributed recently (October 30, 1897) to the *Bulletin Général de Thérapeutique*, by Prof. Albert Robin. With regard to the pathogeny of obesity, there seems to be general agreement (1) that it is hereditary and diathetic; (2) that as a malady it essentially consists in a retardation of nutrition, that is, of the oxidation-processes of the economy whereby ternary or quaternary compounds are rendered fit for elimination. But

Le Gendre has shown that there is such a thing as obesity due to excess of assimilation as well as to want of disassimilation; and the importance of this sub-division is emphasised by Robin, who points out that patients coming under this head require special treatment. For instance, the dry-diet treatment can only do good in cases where there is exaggerated nutrition. This method, advised by Certel and Schweninger, consists in withholding drinks as far as possible, allowing the patient no liquid with meals, and but a sparing amount two or three hours after eating. In patients obese by fault of dissimilation drinks should be permitted rather than withheld, as promoting the oxidation of the economy. In the treatment of obesity, the dietetic regimen plays the principal part, the medical treatment being only accessory. The regimen which Robin advocates is based on Voit's experiment, in which it was found that dogs fed exclusively on lean meat became lean, with augmentation of urea and extractives in the urine; fed on a mixed diet of starches, fats and flesh, they rapidly increased in weight, and the amount of urea in the urine diminished.

Robin's diet tables prescribe five meals during the day. For breakfast, a raw egg at eight o'clock, 20 grammes (two-thirds of an ounce) of lean meat or lean fish, the whole eaten cold and dry—this condition is emphasised that the patient must eat his meat cold; cold meat may be consumed in greater quantity than hot meat without causing increase of weight; 10 grammes (one-third of an ounce) of bread; one cup of hot tea without sugar. At ten o'clock, two raw eggs, five grammes (one-sixth of an ounce) of bread, 150 centimetres (five ounces) of wine and water, or tea without sugar are allowed. At noon, cold lean meat *ad libitum*, but no bread; a little water-cress or salad salted and flavoured with lemon juice; of raw fruits, 100 to 150 grammes (three to five ounces) for dessert, and for drink may be taken with this meal one or two tumblerfuls of water, or water simply reddened with a little wine. One quarter of an hour after dinner a cup of weak tea not sweetened, and at 4 p.m. a cup of weak tea not sweetened, and nothing else allowed. At 7 p.m. the same repast may be taken as in the morning at eight o'clock, and a little more lean fish or meat may be added, which the patient may eat warm; the whole quantity must not exceed 100 grammes (three and one-third ounces). As will be seen, this regimen leaves the patient two good meals a day in which he may eat pretty freely; only azotised substances, however, and green vegetables being allowed. Bread is as far as possible suppressed, but a moderate amount of gluten bread may be permitted.

As for the general hygiene, exercise in the open air is insisted on; this may consist of a walk of half or three-quarters of

an hour after each meal, that is, five times a day. It is difficult to get patients to comply with this requirement, for the corpulent have a horror of much walking. The time spent in this exercise should be gradually increased from half an hour to three-quarters of an hour of brisk walking after each meal, and all the influence of the physician should be exerted to enforce this regulation. If the patient be a female, a carriage ride, with a walk in the country, may be the utmost that can be exacted. In case the patient lives in the country and has a garden, a little exercise in the garden after meals, with a hoe or other implement, or, at least, a promenade, must be enjoined. Hydrotherapy followed by frictions, in a word, everything which stimulates the functions of the skin—vapour-baths, massage, &c.—may be enjoined. Sleep should be regulated as well as diet. Sleep during the daytime should be absolutely interdicted. The patient should go to bed at 11 o'clock p.m. and rise at 6 a.m. during the summer, and at 7 a.m. during the winter—not more than seven hours of sleep for the adult and eight hours for the child.

Robin thinks it possible to obtain sufficiently good effects from regimen without having recourse to any kind of medicine. He would not recommend thyroidin; though this remedy has sometimes given good and rapid results, the indications for it are still uncertain and apply only to certain cases. Moreover, it is far from being always a safe therapeutical agent, as grave accidents have happened from its use. Iodide of potassium has doubtless been given with benefit, but the doses required to cause rapid emaciation are large, and the effects on the tissues and especially on the glands are frequently disastrous. Emaciation, Robin justly says, is a bad designation of the end to attain; the subject ought not to emaciate, he ought to cease to grow fat, and he should aim to transform his obesity into simple *embonpoint*; iodide of potassium, like other so-called “alteratives,” produces a rapid emaciation with all its inconveniences. The natural mineral waters have a great reputation in the treatment of obesity, but their effects last only with the season, as they are at best only a simple adjuvant of the hygienic regimen. The best of these are the waters of Marienbad in Austria, of Sautenay and of Brides in France. The sodic-chloride waters give excellent results in obesity from nutritive failure, being excitant of the nutritive processes. Robin presents several tables, from cases in practice, illustrative of the good effects of this regimen, and closes with the somewhat disheartening remark that “In most obese persons the diminution of weight is always slow and never attains the normal; there is a natural tendency to corpulence, and all that regimen can do is to bring about and maintain a tolerable situation.”

20.---THE USE AND ABUSE OF ANTISEPTIC AND GERMICIDE REMEDIES.

By G. VIVIAN POORE, M.D., F.R.C.P.,
Physician to University College Hospital, London.

The pharmacologists studying coal-tar products have asked us to believe that there is some definite relation between the hypothetical chemical structure of a body and its pharmacological action. This is an attractive doctrine, because of its simplicity and wide applicability. But I confess that this doctrine appears to me to be far from proven, and that in using it we are treading upon very infirm ground. Happily, the pharmacological action of a body is often capable of demonstration, and theory can be confirmed or corrected by direct experiment. It is interesting to note how many of the bodies which we use for dietetic purposes, and which we call "condiments," are in reality antiseptics; and there can be little doubt that many of them have the effect of checking fermentations of various kinds in the alimentary tract. All the vegetable bodies which contain "allyl" are clearly of that class, and it is curious to observe how widespread is the use of these allyl bodies—assafœtida, garlic, onions, leeks, chives, mustard, and horseradish. The first five have a strong characteristic odour, and the onion is peculiarly pungent when applied to the nostrils.

The ease with which an antiseptic or germicide remedy can be successfully applied depends, of course, upon the accessibility of the part to the remedy. It is well to bear in mind the exceeding difficulty sometimes experienced in the cure of ringworm because of the comparative inaccessibility of the hair follicle to the remedy. In the same way the post-mortem wart, or verruca necrogenica, which is said to be due to an inoculation of tubercle, is apt to be very chronic, and not cured without considerable difficulty. I remember in my own case a wart of this kind remained for months, and only disappeared when I carried lint and mercurial ointment in my pocket and resolutely dressed the wart afresh every time I washed my hands. Then it disappeared in a few weeks. Lupus, again, is most difficult to cure, if, indeed, it be really curable. It is well to bear this fact in mind—the difficulties of curing surface infections—when we lightly talk of giving antiseptic remedies for curing such as are hidden away and out of sight. Some of the foul conditions of the pharynx and naso-pharynx, whether connected with syphilis, necrosis, enteric fever, or hemorrhage, yield with tolerable ease to the persistent application of iodoform, accompanied by douching with solutions

of boracic acid or quinine. The same may be said of foul discharges from the ear, or foul ulcers about the body or on the legs. In connection with foul ulcers, I am led to speak of a remedy which has been used time out of mind by the surgeon. I mean nitrate of silver, or lunar caustic. The great good which so often resulted from the use of nitrate of silver was probably due to its great antiseptic power. The same may be said of arsenical pastes, zinc pastes and lotions, and the use of blue stone or sulphate of copper.

Antiseptics, again, have been invaluable to the physician in cases of paraplegia in which the bladder becomes foul. This is a condition which must be remedied if the patient is to continue to live; and there can be little doubt that the washing out of the bladder with solution of quinine or boracic acid or emulsion of iodoform (which is generally successful when the others fail) has added months or years to the life of many a chronic invalid. In foul conditions of the stomach antiseptic treatment is generally successful, because, like the bladder, the organ is tolerably accessible.

When fermentative changes become chronic owing to the presence of the yeast fungus, the modern plan of washing out with weak Condy's fluid is undoubtedly very valuable. In some of these cases I have found nitrate of silver of marked use, and it is doubtless very deadly to many of the fermentation fungi. I am inclined to think that the use of nitrate of silver in this connection is too little appreciated. Need one allude to the use of mercurial purgatives in certain conditions of foul stomach giving rise to acute or chronic gastric catarrh?

We now pass from local diseases to general diseases which are dependent or supposed to be dependent upon animal or vegetable parasites. There seems to be little doubt that in the various forms of malaria which are due to hæmatozoa, the great good obtained by the administration of quinine or arsenic is due to the germicide action of these bodies. The large amount of testimony both from patients and doctors as to the great value of these remedies would seem to exclude the *post hoc* fallacy. The parasitical nature of syphilis is a matter of inference rather than demonstration, but there is little doubt as to the value of mercury and iodine, both powerful antiseptics in combating this disease. Both of these bodies seem capable of counteracting the infection without damaging the cells of the body itself.

In tuberculosis antiseptics have been largely used, but the results have not been very encouraging. Locally in tubercular ulceration of the larynx I think I have seen some good from the use of nitrate of silver in solution or in spray, but only in cases (and those few in number) where the patient could command

every luxury, inclusive of fresh air. I cannot say that I have ever seen any definite good result from antiseptic inhalations, and when we consider how very dilute such vapours must be, it is hardly reasonable to expect much result. Creasote has been largely given and guaiacol carbonate, but clearly without tangible result in my hands.

It seems to me to be reasonable that in making a choice of a germicide remedy we should choose one which afforded certain evidence that it had reached the part one wished to affect. Thus we may be sure, by the smell of the urine, that turpentine passes through the kidney. We may be equally sure, by the colour of the urine, that carbolic acid and some other allied bodies have passed through the kidney.

Alcoholic and ethereal drinks make themselves evident in the breath, and the same may be said of onions and garlic. It was on this account that some years ago I first gave garlic (raw) to persons suffering from dilated bronchi with foul expectoration, and clearly with very good results. After the garlic was discontinued the foulness of the sputa was no longer observed. I have also given garlic to young adults with phthisis, and can say that I have some "faith" in it. Also, I think, I have seen it do good in children with a cadaveric odour of the skin, such as is sometimes observed after measles and other acute specifics. In giving such remedies I think one rule must be observed, viz., that they must be discontinued if they upset the stomach or become repellant to the patient.

Enteric fever is a disease for which antiseptic treatment has recently been much in vogue. But it must be remembered that the bacilli are elsewhere in the body, and that even if we are able to reach them on the free surface of the intestine it does not seem very probable that we should be able to combat them in the spleen and elsewhere. It is all-important in the treatment of enteric fever to keep the mouth sweet by the use of glycerine of borax, washes of peppermint, &c., and if any pharyngeal ulcers should appear these must be treated with iodoform. But as to giving strong antiseptics by the mouth with a view to disinfecting the lower end of the ileum, that seems a proceeding in which success is less certain. It is not easy to get any soluble metallic salt into contact with the small intestine. There is, however, some evidence that the administration of antiseptics in some cases will sweeten the evacuations, and I see no reason why antiseptics, if they be harmless in themselves, do not depress and do not interfere with such appetite and digestive power as the patient may have, should not be administered. Personally, I have never seen enteric materially modified by their administration.—*The Practitioner*, January, 1898.

21.—INDUSTRIAL LEAD POISONING.

By W. R. HOBBS, M.D.,

Clinical Professor of Diseases of Children, Creighton Medical
University, Omaha, &c.

[The account of the symptoms, morbid anatomy, and other parts have been omitted.]

I wish to confine myself to the poisoning by lead as it occurs among those who manufacture the commercial article which is used by painters in their daily vocations, and to treat the subject as it came under my observation during four years' experience among the lead employees.

Symptoms.—The symptoms may be divided into four classes : (1) Mild ; (2) severe ; (3) chronic ; (4) cerebral and neuromuscular.

Age and Conditions affecting Susceptibility.—Age : Very little difference has been noted ; more has depended upon the care taken by each individual, also the different positions of exposure in the manufacture of this product, there being more dust flying around in some parts than another. I have noticed that people of a nervous disposition are quickly affected and difficult to treat. Again, a well-fed individual wards it off longer than one who has been half starved previous to being employed. In some cases symptoms were produced in two weeks, and varying from this to fourteen years. Two months ago I treated for the first time a man who had worked steadily for fourteen years without an attack.

Prophylaxis.—In order to prevent the inhalation of the dust, protectors are worn that fit closely around the nose and mouth, with sponges in the centre which are kept moist ; yet in spite of this the dust finds its way around the edges on to the moustache and into the mouth and nose. Hence shaving the upper lip and face is advised. Keep the teeth clean by using a soft toothbrush before each meal, scrubbing the hands and finger nails, washing with hyposulphite of sodium, and a warm bath daily. Take plenty of fresh milk daily, lemonade and sulphuric acid in it occasionally. Keep the bowels moving daily ; if not, use Epsom salts. Stop alcoholic liquors of all kinds. Do not work on an empty stomach. These constitute about all the preventive measures to date, and until lead is manufactured by electrolysis or methods in which the dust is self-consumed, or the skin protected from absorbing, lead poisoning will be more or less prevalent among the workers.

Prognosis.—In mild cases recovery is the rule. In severe ones complications may arise at any time, such as wrist-drop, meningitis, epilepsy, Bright's disease, any of which may be

permanent; or, with outdoor employment and treatment directed to the complications, recovery, partial or complete, may be expected.

Treatment.—We have yet to find the specific for treating lead poisoning with any degree of satisfaction. My method now is, in mild cases, to give Epsom salts or any saline cathartic every two hours till free catharsis follows, together with antipyrine, phenacetin, or anti-kamnia for the pain. After a day or two I follow this up with iodide of potassium in a vegetable tonic mixture, or a dilute hydrochloric-acid mixture in a bitter tonic, or a mixture with dilute hydrocyanic acid to ease the pain in the stomach. I change them as the case demands.

Severe Cases.—Vomiting, pain, and constipation are to be combated; hence, for the vomiting I use the stomach pump, washing the stomach out with a gallon of warm water saturated with bicarbonate of sodium; for pain I use turpentine stupes, hot applications, mustard plasters, hot baths, and electricity. If the pain is not held in check by these measures, then morphine or opiates are administered, and I never give the latter without feeling that the already existing constipation is augmented.

Constipation.—This trouble, which is found in every severe case, is the most difficult to overcome. I used to start with enemata of soapsuds and water three times a day. If the stomach will tolerate medicines, calomel and soda, Epsom salts, compound cathartic pills, or Hunyadi water are given. If these are not successful, five capsules are ordered, each containing one minim of croton oil, two minims of fluid extract of belladonna, and a sufficient quantity of bicarbonate of sodium. These are to be administered every two hours till free catharsis is produced, and at the same time enemata of salts, or enemata of olive oil with five minims of croton oil included; also hypodermics of a thirtieth of a grain of strychnine twice a day. The changes are rung as the cases demand. I usually find that pain, vomiting, and other severe symptoms abate with the free action of the bowels. I then follow this up with potassium iodide, fifteen to thirty grains in a bitter tonic, three times a day, after meals. I never give the iodides during the acute symptoms, as they aggravate the trouble. Dilute hydrochloric acid, or dilute nitrohydrochloric acid, or dilute hydrocyanic acid may be given as the exigencies of the case demand. The diet should consist of beef tea and chicken soup during the acute symptoms, until the bowels move, then milk and a mixed diet until recovery takes place.

Chronic Cases.—Keeping away from lead works, plenty of milk, fresh air, outdoor employment, and continuous potassium iodide in a bitter tonic generally bring the patient through.

My case of meningitis was treated in the usual way with ice cap, free purgation, and bromides, then later with potassium iodide until recovery took place. Of the two wrist-drop patients, one is still carrying the deformity, but very much improved by outdoor exercise and employment. In the other, I used electric applications on his arms for twelve months without effect. He died from complications last year. Of the epileptic cases, one patient has not had any return; he was treated with bromides, and later with iodides, and is now feeling quite well. The other has not had any return of the fits, but carries the wrist-drop, and will probably do so as long as he lives.—*New York Medical Journal*, March 5, 1898.

22.—AN EXAMINATION OF FORTY-THREE PUBLISHED CASES OF OPIUM OR MORPHINE POISONING.

By EDWIN J. BARTLETT, M.D., Hanover, N.H.

Occasion.—The greater number were suicidal; a few were accidental; none were reported as homicidal.

Sex and Age.—Thirty-four were adults; 9 were children. Of the adults 24 were male, 10 were female. Of the children 7 were eighteen months or less (1 was fifty hours; 1 was five weeks); 2 were over eighteen months.

Death or Recovery.—Thirty-six recovered; seven died. Of the deaths one was a boy; six were adults: one was a female; six were males. All of the cases but two had treatment; of the two, one was found dead in the morning; one died almost immediately. Of the seven deaths, three seemed to be solely from the effects of the drug; one, complicated by previous medicinal doses of chloral, is described as from the exhausting effect of the remedial measures; delirium tremens, angina pectoris, uræmia are complications in one case each.

Form of the Drug.—This is stated in 39 cases: laudanum, 19; morphine, 16; opium, 2; soothing syrup, 1; opium and morphine, 1. Deaths following laudanum, 2; morphine, 2; opium, 1; opium and morphine, 1; unknown, 1.

Quantity.—The quantity taken is recorded in 38 cases. Laudanum, fluid ounces, 3, 2 (2), $1\frac{1}{2}$ to 2, $1\frac{1}{2}$ (3), $1\frac{1}{4}$, 1 (5), $\frac{1}{2}$ (2), $\frac{1}{4}$, $\frac{1}{8}$, 3 minims; total, 18. Morphine, three teaspoonfuls, grains 51, 36, 30 (3), 20, 15 to 20, 16, 7, $1\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{4}$ (2), $\frac{1}{8}$, $\frac{1}{16}$; total, 16. Opium, grains 150, 6; total, 2. Opium, $2\frac{3}{4}$ gr. and morphine $\frac{1}{6}$ gr. in three days. Soothing syrup, two teaspoonfuls divided. The deaths followed the opium and morphine (no treatment); 3 oz. of laudanum (uræmia); 1 to 2 oz. laudanum (delirium tremens); 150 gr. of opium; $\frac{1}{4}$ gr.

of morphine (angina pectoris); $\frac{1}{8}$ gr. of morphine (after chloral); and one unreported dose; total, 7. All the other cases recovered. Three minims (estimated) produced thirty-six hours' stupor in a five-weeks' infant, requiring artificial respiration nearly all the time for sixteen hours. One-sixtieth of a grain of morphine in two doses produced immediate alarming condition in a female adult somewhat reduced at the time, but tolerating 1 grain of opium at another time. On the other hand, 30 grains of morphine produced no effect whatever on an adult male, the only treatment being a somewhat late emetic.

Onset of Symptoms.—The time to the onset of disturbing symptoms is stated or implied in 19 cases. Five are described as "soon," "very soon," "immediate," "a few minutes"; 1 in fifteen minutes; 6 in thirty minutes; 1 in forty minutes; 5 in one hour; 1 in about two hours. Two of the fatal cases are in the "very soon" group, and the other five lack data; four of the early group resulted from the very small doses; the fifth is from 6 grains of opium. Of the six earliest cases two were males and four were females. Of the seven latest cases, five were adult males, one was a female infant, one was an infant, sex not reported. The conspicuous initial symptom is nearly always drowsiness, stupor, inability to stand; in one case the intoxication began with convulsions, coma later. The interval before treatment is given in 34 cases, and ranges from nothing to thirteen hours; it does not seem to bear any definite relation to the subsequent gravity of the case. Of the 7 fatal cases, however, 2 received no treatment, and in the others the interval was one hour, two hours, five hours (2), seven hours.

Termination of Case.—In the 7 fatal cases death took place "in a few minutes," "next morning," twelve hours, thirteen-and-three-quarter hours, thirty-six hours, third day, three days. The second, third, and fourth were apparently uncomplicated. In 31 of the cases of successful treatment the time is given to partial recovery or encouraging improvement. It ranges from "a few minutes," twelve minutes, fifteen minutes, twenty minutes to twenty-one hours; in 7 cases it was from eleven to thirteen hours. The average time was very nearly six hours from the beginning of treatment. The time of complete recovery is stated in 25 cases, and ranges from one, three, six, twelve hours to four, five, five, ten days in cases in which there was complete unconsciousness. The average was two days and two hours.

Pulse.—The condition of the pulse or heart is stated with more or less accuracy in 27 cases, 4 of which were fatal. "Little affected," "fair," 2 cases. "Just detectible," "absent," "pulseless," "barely perceptible," "feeble," 5 cases. "Full,

slow" (3); "slow, strong"; "slow, intermittent"; "slow, 65"; 6 cases. "Rapid, feeble, intermittent"; "rapid, small, weak"; "rapid, irregular, weak"; "rapid, weak"; 110, 148, 156; 68, 84, 100, 120; 140, 148; 124 to 134; 96, 100; 85, 90, 100, 110; 110, 160; 150; 160, 130, 120; accelerated, 14 cases. The fatal cases were 110, 148, 156; 124; 96, 100; "absent," 4 cases.

Face.—The appearance of the face is mentioned in 20 cases. Cyanotic, purple, dusky, livid, congested, 18 cases. Dull eyes, 1 case. Pale, 1 case. The pale case took 3 ounces of laudanum, was complicated with albuminous urine and uræmia, and died on the third day; 2 other fatal cases are included in this list—1 purple and 1 cyanotic.

Pupils.—The condition of the pupils is mentioned in 36 cases. Pin-point, dot, or some word indicating extreme contraction, is used of 22 cases; contracted is applied to 11 cases; total, 33. Dilated is applied to 2 fatal cases; one was not observed until after death, and the other died in a few minutes. Widely dilated is the only term applied to a non-fatal case, in which no mention is made of the treatment. In many cases dilatation soon after the use of atropia or belladonna is mentioned.

Mouth.—The condition of the secretions of the mouth is not mentioned in any case. In one case the lips and tongue are spoken of as black.

Temperature.—Mention of the temperature is made in only 6 cases. The statements are:—Normal; 102·2° in twelve hours; 96·4°, 104°, 103°, 101·3°; 101·6°, 105·8°; 103·5°, 104·5°. The second, third, and fourth were fatal—complicated with delirium tremens, uræmia, chloral, and exhaustion respectively.

Skin.—There is some description of the condition of the skin in 17 cases. Cold skin, 6; cold and wet, 7; warm, moist, 1; profuse sweat, 1; dry, 1; livid, 1. Four of the fatal cases are in this list, and were respectively—warm, moist; cold; cold, moist, dry.

Bladder.—The condition of the bladder is mentioned in only 4 cases. Thirty-eight ounces of urine was drawn in fifteen hours; the urine was retained twenty-four hours; the urine was retained nine hours; the urine was retained nineteen hours. The last three were infants.

Urine.—Urine is described twice, once as albuminous, once as scant and high-coloured.

Respiration.—The condition of the respiration is mentioned in 35 cases. In 4 cases it is described as "little affected"; "rapid, shallow"; "twenty-six a minute"; "ten, twelve, fourteen." In the other 31 cases the frequency is much diminished; in 12 it is described as stopping entirely; in 15 other cases it is noted as going down to one, two, three, four,

five, six, or eight. They are described as "slow, gasping, with occasional deep sighs"; "stertorous, intermittent"; "shallow, feeble"; "abdominal."

Stupor.—Complete unconsciousness is mentioned in 34 cases; 3 others died; unconscious, 37; partially unconscious, 1; conscious, 1; no symptoms, 1; no data, 3; total, 43. The period of complete unconsciousness is mentioned or implied in about one-third of the cases, ranging from a few minutes up to eleven, twelve, twelve-and-a-half, thirteen to twenty, twenty, twenty-six, thirty-six (2) hours, with recovery. In one of these cases artificial respiration was maintained twelve-and-a-half hours upon a man apparently dead; in another it was maintained sixteen hours, with brief intermissions, upon an infant capable of making only slight and irregular efforts to breathe. In one case the subject, though conscious, went to sleep while talking, after forty-six hours.

Other Symptoms.—Of other symptoms little classification can be made on account of the meagreness of the data. Late vomiting is mentioned repeatedly, but cannot be separated from the effects of the remedial measures; one instance of vomiting is mentioned prior to the use of any remedies. Thirst is mentioned once or twice. Injection of the conjunctivæ once or twice. Inability to swallow is frequently mentioned or implied. Partial recovery followed by a relapse appears to be a frequent occurrence. Convulsions prior to stupor are mentioned once. Limpness or complete relaxation is mentioned six times. "Intense itching," "scratched leg," "rubbed face and nose," 3 cases.

After-Effects.—The scanty statements lead to the conclusion that the after-effects are usually slight and chiefly attributable to the strenuous measures employed to save life. Laryngitis, pneumonia, sore throat or cough are mentioned in four cases. Irritability, prostration (lasting ten days), a rash, hallucination or mild delirium (presumably from atropia or belladonna) are mentioned; also sore mouth (from permanganate of potassium). In one case the attending physician ascribes the death to exhaustion from the violence of the treatment.

Treatment.—Aside from the maintenance of respiration, no particular remedial measure can be judged from these cases to have had especial value. The gravity and duration of the cases led to variety of treatment in the same case; nearly all the cases recovered under the most diverse treatment. Atropia and permanganate of potassium figure by far the most numerously; coffee very little; caffeine, amyl nitrite, strychnine, apomorphine, oxygen, whisky, milk, electricity, &c., appear, and improvement followed them all.—*Boston Medical and Surgical Journal*, December 30, 1897.

23.—CARLSBAD AND ITS THERMAL WATERS FOR ANGLO-INDIANS.

By Sir J. FAYRER, M.D., F.R.S.

[The following is taken from Sir Joseph Fayrer's paper :]

It has always appeared to me that this most valuable of health resorts is neither sufficiently known nor appreciated, and that erroneous impressions as to the depressing and debilitating effects of the waters and diet exist which better knowledge would probably remove. Carlsbad, like other health resorts, is not suitable to all complaints, but for a large number of chronic functional disorders, to which old Indians especially are liable, it is often of great and enduring value. I should be glad if I could induce those to whom I believe it is so well adapted to try it either on their way to England or later; and I believe that if many who have retired from the services would spend a month or three weeks there every year for two or three years they would probably derive lasting benefit. The Carlsbad springs yield warm alkaline, saline waters. They are clear and sparkling, free from any disagreeable taste or smell, and vary in temperature and amount of free carbonic acid, and they all contain the small solid constituents, the proportion varying in only a very slight degree, and all come from one common source emerging at no great distance from each other, the differences in the temperature and amount of carbonic, and depending on the depth from which they come and the nature of the channel by which they reach the surface. They all, the Sprudel especially—deposit a yellowish or dark brown crust consisting of calcareous, silicious earth with traces of iron. These are kept in solution by the carbonic acid which, being parted with on coming to the surface, occasions the deposit which has formed the crust on which part of the town is built and which colours the ground and rocks wherever surplus Sprudel water flows.

There are numerous springs in Carlsbad. Those chiefly in use are the Sprudel, Muhlbrunn, Schlossbrunn, Markbrunn, and Falsenquelle. Around these numbers of patients congregate, the others are less in request. To the differences which exist between the springs, such as they are, the experienced physicians of Carlsbad attach considerable importance, as may be seen by the greater attendance at some than at others. The active constituents in these waters are sulphate and carbonate of soda and chloride of sodium; no doubt the other salts contribute some share in determining their efficacy. One spring called the Eisenquelle differs entirely in its constituents from the others, and is probably from a different source. It contains a small quantity of iron, and is used as a chalybeate. Its temperature is only 48° all the year round. There are one or two others,

such as the Saverbrunn, which contain few mineral constituents, but are largely impregnated with carbonic acid gas ; they form pleasant drinking water. A favourite drinking water, which contains a quantity of carbonic acid, and is much used in cases of uric acid and gout, is brought from the Gieshubler-Puchstein springs, a few miles distant from Carlsbad. All the other springs lie within a radius of half a mile from the centre of the town. Bathing is an essential part of the treatment for some complaints. The therapeutic value of the Carlsbad waters depends chiefly on the sulphate of soda, which has a gentle purgative action. The carbonate of soda neutralises acid, the chloride of sodium and other constituents combined with carbonic acid, and in conferring on the water its solvent powers and materially contribute to the solution of various exudations and concretions which may be forming or have formed. The general effects are promotion of defæcation and diuresis, absorption of fat and modification of metabolism promoting a favourable influence on the blood formation, improving digestion and nutrition and the integrity of the functions generally.

The good effects, though often manifested early, are not so always, and the patient may leave Carlsbad apparently no better than when he went there ; but improvement so frequently occurs later as a result of the treatment that it would be unwise to pronounce unfavourably on leaving the place. I feel convinced that, rightly used, with due attention to diet, habits and mode of living, the Carlsbad waters are capable of conferring great benefit, without the depressing effects so often attributed to them, but the cases for which they are appropriate must be carefully selected. Organic diseases of all kinds, especially if in an advanced condition, should not as a rule be sent there, though in the earlier stages of some so much improvement in the general health may result as to retard their development and ameliorate the condition of the sufferer. But when the cases which are not appropriate are excluded a number still remains for which the benefit will be great indeed.

The nature of the ailments for which the waters are applicable has been clearly pointed out by many authorities, whilst the necessity for care in respect of mode of life, diet and occupation, the importance of travelling slowly, the need for repose and sojourn in some bracing locality after the treatment, and delay in return to work and to those causes by which the original trouble was induced, have been equally insisted on, and I can only say that they apply as much to invalids from India as from elsewhere. It remains only briefly to notice the conditions for which Carlsbad is likely to be useful to Anglo-Indians. The waters are indicated in the following disorders :—In congestion

and functional derangement of the liver, in catarrhal jaundice, in gall stones or inspissated bile and in chronic hepatic enlargement in which serious structural change of the amyloid or other degenerative process have not taken place. In chronic engorgement of the portal system, in catarrhal conditions of the mucous membrane of the intestines and congestion of the hemorrhoidal vessels ; also in habitual constipation, incipient hemorrhoids and even in the earlier stages of tropical diarrhœa. In diseases of the spleen, such as chronic hyperæmia and enlargement, resulting from malarial poisoning. In chronic gastric catarrh ; in cardialgia or gastralgia, dyspepsia, dilatation of the stomach. In those forms of albuminuria which take place as the result of abdominal plethora and changes in the blood due to malarial poisoning. In renal and vesical gravel, in lithiasis, also in chronic catarrh of the bladder and in hyperæmia of the prostate gland, and in some hyperæmic conditions of the womb and its appendages. In gouty conditions, whether expressed in affections of the abdominal or other viscera ; in arthritic effusions and in thickening of the tissues and sheaths of the tendons surrounding the joints ; in eczema, and, in fact, in any of the other modes in which the gouty diathesis manifests itself, also in general abdominal plethora and in obesity, whether of the abdomen or of the body generally. In the earlier forms of diabetes there seems little doubt, from the testimony of eminent authorities, that benefit may be derived. But Carlsbad is to be especially recommended to those who, after protracted residence in India or other malarial climate, suffer from occasional recurrences of malarial fever, with consequent derangement of function and even alteration in the normal condition of liver, spleen and other abdominal viscera ; who, without suffering from any positive disease, are failing in health, have impaired digestion, distended condition of the abdomen, increasing fatty deposit in the omentum and a tendency to fatty degeneration of the muscular system generally who find themselves languid and depressed, unequal to much physical or mental exertion, show indications of incipient anæmia, suffer from dyspnœa, from rheumatic or gouty pains, irregular action of the bowels, congestion of the portal system and distended hemorrhoidal vessels—a state of things perhaps in some cases aggravated by excesses or irregularities of diet, or the neglect of due precautions, as to the quantity or kind of alcoholic stimulants. Indeed, almost every European not the subject of organic disease, who has spent many years in India, would do well to avail himself of the resources of Carlsbad before he enters upon the new course of life which lies before him, whether he be returning to India for furlough or retiring to spend the remainder of his life at home.—*The Indian Lancet, February 16, 1898.*

DISEASES OF THE NERVOUS SYSTEM.

24.—THE EARLY RECOGNITION AND MANAGEMENT OF DEFECTIVE DEVELOPMENT IN CHILDREN.

By LOUIS FAUGÈRES BISHOP, A.M., M.D.,
Chairman Section on General Medicine, New York Academy of
Medicine, &c.

[The following is taken from Dr. L. F. Bishop's paper :]

The cases that require the greatest attention are those in which we can hope to rescue the individual from the class of useless idiots, and by intelligent education place him as an humble member of the productive classes.

The etiology of idiocy has always been a source of speculation. We have chosen the term defective development rather than idiocy to emphasise the fact that the trouble is quite general throughout the whole economy. The cases of idiocy due to infantile cerebral disease, such as hemorrhage, are examples of arrested development due to a definite gross lesion. We prefer to consider the more uncomplicated cases in which the defective development can not be traced to accident, infantile cerebral palsy, or the cerebral complications of the exanthemata. The early recognition of defective development is not at all easy. Children differ much as individuals in different families, and also are very strongly influenced by their surroundings. The keenness of their special senses also plays a strong part in rapidity of the mental development. A slight defect of hearing or eyesight in a young child will influence and retard development in a marked degree. I have a number of times had occasion to point out that an apparently idiotic child was only defective in sight or hearing. Curiously enough, however, some of the children who on careful examination prove to be markedly defective, have every appearance of being the brightest children. Probably the most troublesome cases and those that are the most difficult to improve are the active, restless and physically strong. It is impossible to fix the attention of these children, and they are absolutely lacking in that power of plodding work that often does so much for some dull cases.

One of the saddest things that can happen to a defective child is that he should be placed under the educational influences of a large school in competition with children of normal abilities. Under such circumstances, as time goes on, a defective child gradually drops farther and farther behind until finally he is associated with children much younger than himself. This breeds discouragement, recklessness as to behaviour, and

mortification of spirit, or what is just as bad, callousness. The defective child should be trained with a definite view of accomplishing the possible. If the child is almost imbecile the training should commence in a purely physical direction, and the child should be taught to perform at first a few definite acts, as a trade, or certain household duties. The capacity of the child must always be borne in mind. The defective child must be taught many things that in others come from observation and example. The defective child is taught with great difficulty the care of its clothing and the minor civilities of life that to a bright child come almost without teaching. More difficult and more serious even than the development of mind is the development of character. Stubbornness and perversity of disposition are more often a manifestation of defective development than they are of an inheritance of strong characteristics from the parents. The defective child is unable to subdue its own personality and unable to recognise the authority of others. The question of how to meet this difficulty is of very serious import, and will tax to the greatest degree the tact and intelligence of those who have the responsibility of its training. But the principles applicable to the defective child are not different from those of education in general. Indeed, the study of the defective has often thrown light upon the whole field of education. Severity is certainly wrong. The principle so strongly advocated by Spencer that the child should be allowed to suffer the consequences of its previous acts are applicable to a degree, but a defective intelligence renders extreme application impossible. Undoubtedly the most rational treatment of such children is to disregard as much as possible all previous acts and perversities of temper, and by constructive efforts in the directions of those abilities and faculties that the child has to counteract as much as possible the evil tendencies. The question of responsibility is not easy to decide, but certainly the defective child is not to be held accountable for those acts that are evidently the outcome of its condition. The symptoms of the defective do not always differ in quality from the ordinary defects of most children. It is more a difference of degree. A child subject to occasional outbreaks of ungovernable temper, or even frequent perversity of will, should not be decided to be defective; but when this is accompanied by the extreme restlessness of manner, the inability to fix the attention, and perhaps physical signs, the diagnosis is easy to one of any experience. With the history of a cause or the presence of recurrent convulsions, the diagnosis of defective development may be certain. The close study given of late years to the development of children by intelligent mothers, nurses, and educators, who from time to time meet

to consider the interests of children, may throw light on the normal and abnormal child's mind that may in the future make the very early recognition of defective development easier. At the present time it must be based to a large extent upon a balancing of probabilities and upon the ripe experience and the trained judgment. Fortunately there is nothing in the management or treatment of the defective child that would in any way prejudice the future of a child in the case of a mistaken diagnosis. On the other hand, much harm can be done to the prospects of development if the defective child is wrongly managed in its earlier years, and its condition only recognised when the manifest difference from its fellows becomes evident through the application of an educational system that has already worked upon it the greatest hardship.—*Journal of the American Medical Association, December 18, 1897.*

25.—SOME POINTS IN LUNACY PRACTICE.

By J. E. SHAW, M.B.,

Professor of Medicine, University College, Bristol, &c.

[The following is from Dr. Shaw's paper, which deals with the subject in relation to the general practitioner :]

Uncertified cases, which present to practitioners a large class, and one difficult to deal with, are those who (*a*) may not, and those who (*b*) can not be certified from different reasons. Firstly, of those who, although fully insane, are not permitted to be certified. The ratio of private patients in this country is diminishing ; this is owing partly to the publicity due to the necessary cognisance of the case by a magistrate, and partly to the dislike to asylums and certification by the public. There is no doubt that from aversion to certification on the part of the friends many insane persons are kept in private care with very inadequate treatment. Secondly, of those who cannot be certified in the existing state of the law there are many kinds, who may be formed into one or two groups. The confirmed inebriates form a large and important section practically undealt with, the well-intentioned Acts of 1879 and 1888 being inoperative to all intents and purposes. One cause of this failure is that the applicant for admission has to go before two magistrates to sign a declaration that he is entering the retreat of his own free will ; the other more deplorable cause is that, unable to control himself, he cannot bring himself to take the step ; he is compelled by law to be the sole person who can bring about his own enforced deprivation from stimulants, all others being prevented from taking active steps to save him.

The medical superintendent of every retreat does but reiterate in the report his indignation at this solemn and hideous mockery. Another class of anxious cases consists of those who are mad medically, but not legally. There are many men who by extravagance, dissipation, flagrant immorality and disregard of social conventionality have ruined their families and friends ; there are, again, many women who by secret drinking and drugging, by hysterical possession, by what we must call kleptomania, and other moral delinquencies, have brought equal misery into their homes ; the families and medical attendants can do nothing until the actions of these persons have become detrimental to society at large. The law protects society from the delinquent, but not the delinquent from himself. In the Code of Civil Law which will come into operation in Germany in the year 1900, it is specifically provided :—“ Under guardianship may be placed those who (1) by prodigality, or (2) by drunkenness, expose themselves or families to the dangers of poverty or distress, or endanger the safety of others.” Would that there were some such legal provision in our own country. Besides these, there are many other cases of neurasthenia, epilepsy, hystero-epilepsy, erotomania, &c., which cannot be admitted to asylums because they are not legally certifiable ; there are no wards in ordinary hospitals where they can be compulsorily detained, so they are left to be a perpetual source of misery both to their friends and to themselves.

Have no means been proposed by which society should rid itself of these burdens ? Only the present state of the law in England prevents that from being done in this country which is done in Scotland in cases legally uncertifiable, as well as in cases also of distinct but transient insanity where it is not desired to place the patient in an asylum. An order is signed by a near relative, and a certificate by one medical man ; by this conjoint means the patient is sent to a private house named in the order, and is there and thereby detained in the first instance for six months, which can be subsequently extended. With this arrangement there is no publicity, no magisterial interview or investigation, no subsequent slur upon the patient for having been an inmate of an asylum, while occasional visits of commissioners guarantee that the patient is properly cared for. That the plan is not abused is shown by the fact there has been no action for illegal detention in Scotland for more than twenty years. Were this process in force in England how much misery could be prevented. As already stated, there is no place in wards of ordinary hospitals where these non-certified cases can be detained ; but if they become legally certifiable for temporary detention, as above proposed, some definite accommodation will have to be provided. It is Utopian to expect that in

each large town there should be a hospital for nervous diseases? Here could be brought the simple melancholic who requires feeding, the neurasthenic who requires massage and isolation, the hystero-epileptic who requires occasional restraint, the simple epileptic might be taken thither when attacked in a public place, thither also might go the tippler or confirmed inebriate for whom a six months' detention is not sufficiently long, and there also many cases of insanity as yet uncertifiable (such as general paralysis in early stage), might be detained and deprived of the power of harming themselves or others, until such time as they could be fully certified and transferred to an asylum. Furthermore, there should be a separate block whither severe cases of acute insanity could be taken as a receiving ward. Cases of acute delirious mania, delirium tremens, post-epileptic mania, and desperately suicidal melancholia are constantly occurring, and in their violent and excited condition have to be removed to the county or borough asylum, possibly many miles away. Why should they not be taken to the receiving ward of this hospital for nervous diseases, and kept there until, the extremest violence having passed off, they could with less danger be transferred, if still necessary, to the distant asylum? Were not these cases compelled to travel when unfit in body and mind so to do, how many fewer would be found to have their ribs broken when they die a few days after admission to the asylum! Payment should be demanded from patients in this hospital according to their means; and how best it might be provided with a medical staff is a matter for consideration, but the insane block should undoubtedly be under the direction of a physician who had held an asylum appointment.—*Bristol Medico-Chirurgical Journal*, December 21, 1897.

26.—HYSTERIA IN CHILDHOOD AND YOUTH.

By JOHN MADISON TAYLOR, M.D., of Philadelphia,
Professor of Diseases of Children in the Philadelphia Polyclinic,
&c.

[The following is taken from Dr. J. M. Taylor's paper:]

True hysteria frequently occurs among children, in whom it is sometimes seen in a very graphic form, in boys as well as in girls, although twice as frequently in the latter. It increases steadily in frequency of occurrence from the third to the thirteenth year, and no age is exempt. The early recognition of all the neuroses of childhood is peculiarly important. This is especially true of hysteria, which, if unchecked, seriously modifies character growth and psychic development, as well as

obscuring the sequelæ of acute diseases. In almost no other disorder do we see the influence of remote causes so admirably illustrated as in the hysteria of children. A neurotic ancestry of howsoever wide a variety may be manifested in the child in this form. It is rare, if not impossible, for children to be thus affected unless there is a clear history of neuropathic ancestry, along with debilitating conditions or emotional strain. It readily happens, too, that a powerful example may produce a hysteric outbreak in a well-balanced child. Exciting causes are: exhausting conditions, depressed health from acute diseases, injuries, abusive treatment at the hands of others, overwrought emotionality, and objectionable education generally, especially in religious matters. Whenever there is recognised ancestral alcoholism, insanity, or "marked peculiarities," the children must be doubly watched and guarded. Hysteric symptoms are frequently seen during convalescence from infectious and other acute diseases. Imitative paralysis, contracture, tremor, and persistent local pain or tenderness are likely to follow various injuries, even very trifling ones. Vexations, disappointments, fright, shame, and, above all, religious excitement, are often potent factors in the production of psychic disturbances. Perhaps the very worst influence of all, because more constantly present, is unwise, especially careless, home influences, lacking in systematic and watchful control, encouraging selfishness and minor deceptions deemed necessary by the child to secure what is coveted. However, it must not be inferred that hysteria is solely the outcome of individual blameworthiness, nor is it always the result of lax moral conditions; for, on the other hand, puritanic severity is capable of working a large measure of harm. Disorders of the generative organs, especially those resulting from masturbation, are important causative agents, about which much might be said, especially as parents are singularly unwilling or unable to control habits of the kind mentioned.

By far the most important element in hysteria is the mental phenomena. The child subject to hysteria is markedly impressionable, with a great tendency to accept and act upon suggestion. The key-note to the whole situation is suggestion, both in the production of the psychosis and the emancipation of the sufferer. Morbid suggestion from without or from within, one or the other, or both, produces the malady and encourages its continuance; and wise, forceful suggestion from without will effect a cure, especially if accompanied by well-chosen auxiliary measures systematically applied.

The paroxysm or hysteric fit has acquired the reputation of being the most important manifestation of the disorder, because it is the most conspicuous. It may, however, be absent or only

rarely observed, or, again, but atypically exhibited. The more severe hysteric paroxysm has received the misleading name of "hystero-epilepsy," and is extremely rare, and when it does occur is difficult to differentiate from an epileptic attack. Nevertheless, it is hysteria, and has nothing in common with epilepsy. A better term, as proposed by Lloyd, is "hysteria-major," just as in epilepsy we distinguish between the larger and lesser epilepsy (or *grand* and *petit mal*).

The hysteric paroxysm, as has been said, is not the most important symptom of hysteria. The permanent markings (stigmata) of hysteria have to do with changes in sensation, motility, the activities of the viscera, the mind, and nutrition. Alterations in sensibility are nearly always present. Hyperæsthesia and local tendernesses are common, as in the well-known hysterogenous zones. Disturbances or alterations of sensation are characteristic of hysteria. Anæsthesia, more or less complete, is nearly always present in the hysteric subject, who may often be ignorant of its presence. Sometimes this is only of one side of the body, divided with great exactness in the middle line from head to heel (hemianæsthesia); and sometimes occurs in irregularly distributed areas (disseminated anæsthesia); or, again, is distinctly localised in one arm or one leg (segmental anæsthesia). This last may be accompanied by motor impairment (palsy) of the part. The areas of anæsthesia, when pricked, do not readily bleed (ischæmia). The organs of special sense are often disturbed in hemianæsthesia, and always upon the affected side. Of these the most important are the eyes; there may be a concentric narrowing of the visual field, or an alteration in the colour fields (amblyopia or colour-scotoma). There may be deafness of one side, or impairment of smell or taste. The changes in the colour field (when characteristic) are one of the most certain points for differential diagnosis. The disturbances for motility in hysteria are either loss of function (paralysis), or perversion of function (contraction and tremor). These symptoms are very apt to appear by themselves. The paralyzes of hysteria simulate those due to central nervous disease in their distribution, but not in their clinical history. They may be named in the order of frequency with which they occur in children, viz. : paraplegia, monoplegia, and hemiplegia. The paralysis of motion is commonly, but not always, accompanied by paralysis of sensation. The onset is usually sudden, and in form may be flaccid or spastic. The immediate cause is usually some emotional perturbation, which may be psychic or traumatic. The contractures in hysteria may be either partial or complete, a local stiffening, or a spasm. These contractures may persist for years, though not always constant, and sometimes returning upon slight excitation; they may remain in the

same place, or pass from one part to another. Tremor is rare in children; loss of voice is not common, neither is increased rapidity of respiration. Hysteric vomiting, also rare in the young, is a very serious matter when it does occur, imperiling health, or even life. Its character is *sui generis*, a mere regurgitation, due to a spasm of the œsophagus. The intestine is sometimes paralysed in hysteria, producing an immense bloating, with noisy belching, which is usually concomitant with a condition of emotional excitement.

The treatment of hysteria in children or in adults is always complicated by the fact that the causes which produce it have so much to do with environment. It is difficult, almost impossible, to effect a cure unless the unfavourable environment be changed. It is easy to point out how a case may be benefited or cured, but not so easy to enforce the measures with sufficient thoroughness to produce a satisfactory result. The most important point in treatment, to be always insisted upon, is a complete separation of the child from its parents or previous caretakers during a considerable period of time. The physician finds himself in a very difficult situation, and will usually be compelled to compromise. Indeed, it may sometimes be wiser to do this, and then gradually lead up to other measures more and more efficient and complete. The first part of the treatment should consist of the systematic application of measures directed to the improvement of general health, which may not seem obviously much impaired. An essential factor in the production of a cure is a properly qualified nurse, or (in rare instances) a wise and patient member of the family who can be taught to exercise the necessary control. The next most important element in the treatment is moral training, a complete remodelling of the point of view of duties to self and others. It is of the greatest importance for physicians to realise that drugs are of no value whatsoever in the treatment of the psychosis known as hysteria. Judicious reasoning, frank conversation of an educational kind, and vigorous suggestions, with sometimes the added pomp and circumstance of the proper place and conditions, are powerful agents for good. Thus, a steady repetition of suggestion, with judicious and thorough detail, by a nurse or attendant trained to this end, is of great efficacy. As soon as the more severe symptoms are overcome and the child restored to uniform good health, proper educational measures must be steadily pursued. Remedial measures, directed to the removal of functional disturbances, for instance, hydrotherapy, electricity, especially the static form, massage, and regulated exercises, are of direct value. Strong faradic applications help to overcome hysteric paralyses, particularly in conjunction with encouraging words. The manner assumed by the physician exerts the utmost

influence for good or evil. A frank, candid exposition of the patient's need should be clearly given. The medical man should be recognised by the patient as most kindly disposed, encouraging, and yet relentlessly firm.

For the sensory disturbances, the cold douche, or alternate use of hot and cold water, or the employment of some of the more picturesque devices, such as metalotherapy, may prove beneficial. Hypnosis will control a certain proportion of phenomena, and is rather easy to produce in children who, at best, are very impressionable, but is little better than repeated, direct suggestion at the hands of a physician whom the child has learned to respect and esteem. To overcome a paroxysm or convulsion the following measure may prove efficient: ice water dashed repeatedly over the face or back, or trickled steadily upon one point, as from a small hose or watering-pot; pieces of ice rubbed here or there on the back or chest, and, lastly, inhalations of ammonia or nitrite of amyl.—*Medical News, January 1, 1898.*

27.—SENILE EPILEPSY.

By CHARLES LEWIS ALLEN, M.D., Lecturer on Nervous Diseases
in the Georgetown University.

[The cases and other parts of Dr. Allen's paper have been omitted.]

Since it is to the discussion of the epilepsy of old age that this paper is devoted, only cases in which the first paroxysm occurred after the fifty-fifth year will be considered. In the etiology of this form of the affection neurotic heredity may play a rôle, but it is a much less important factor than in early life. Old age is a period in which degenerative changes are taking place and instability of nerve-cells is again a feature of body activity. Syphilis and the abuse of alcohol may exert a causative influence in old age as at any other period of life, but the cases in which the attacks are the direct result of either of these agents are hardly to be considered as true epilepsy at any period of life. The same remarks apply to trauma, gross brain disease, and intoxications. Observations so far do not enable us to assign to senile epilepsy a course and symptoms differing in any marked degree from the epilepsy of earlier life. A study of the reported cases, and my own experience as far as it goes, leads me to think that while a convulsion followed by coma is perhaps the most usual form, the attack is apt to be atypical, the convulsion being but slight or entirely wanting—often only a short tonic spasm occurring—while the coma is quite profound, resembling closely the coma of apoplexy, and as this is the stage which the

physician is most likely to observe, the latter disease is apt to be diagnosed, until the rapid recovery of the patient makes evident the true nature of the case. In fact the old physicians described the attacks as apoplectiform or pseudo-apoplexy. The seizures do not generally occur with great frequency, seldom oftener than once or twice a month, perhaps only once or twice a year. They come on more frequently at night than during the day. There may or may not be tongue-biting. Involuntary discharge of urine is common. Vertigo, attacks of *petit mal*, and "absences," as well as slight localised spasms, are frequent, often antedating by some time the more severe attacks. After an attack of *grand mal* the patient may be in a dazed condition for several hours or days. Mental failure is common in the subjects of senile epilepsy, but it does not differ specially from that usual in old people, nor is the insanity which is sometimes present different from senile insanity in general.

New observations have been recorded from time to time, and late writers have sought to establish the existence of a distinct disease, or better, perhaps, a symptom-complex, characterised by slow pulse and epileptiform or apoplectiform attacks, the anatomic basis of which is a sclerosis of the arteries of the medulla and pons with degeneration of the heart-muscle, and to which they give the name "cardiobulbar-sclerosis," or, after some authors, the "Stokes-Adams disease." That acute anæmia of the brain can produce epileptiform convulsions was long ago shown by the classic experiment of Kussmaul and Tenner. Now we well know that in arterio-sclerosis the arteries are thickened and stiff and their lumina more or less encroached upon; hence, even a slight contraction of the muscular coat may have quite a powerful effect upon the blood-supply, especially in the brain. It seems likely that the vertigo, temporary numbness of extremities, and occasional spasms, observed in the subjects of arterio-sclerosis are due to local anæmia produced in this way. Arterial sclerosis is specially a disease of old age. It has been present in greater or less degree in all the cases of senile epilepsy which have come to autopsy and has generally been accompanied by degeneration of the myocardium. Naunyn reports three cases of senile epilepsy, one with autopsy, and in all of which there was arterio-sclerosis. By firm compression of the carotid arteries of these patients, the pulse could be brought down from 80 to 43 per minute, and an attack, varying from slight giddiness and muscular twitching to a full convulsion, could be produced. Naunyn, however, gives warning of the danger of the procedure mentioned above, as one of his patients, after the pulse had been reduced from 96 to 40 per minute and a convulsion had been produced, stopped breathing, and artificial respiration was necessary to save life. From the

foregoing it seems likely that senile epilepsy, if not identical with, at least bears a close relation to the "Stokes-Adams disease," and has a similar pathology. It is evident also that it should hardly be termed an idiopathic epilepsy, but that it belongs rather to the ever-growing class of symptomatic epilepsies. When we consider, however, that of the great number of people having arterio-sclerosis so few develop epilepsy, the arterial theory does not seem entirely sufficient to alone account for all cases, and we are constrained to survey the field for other factors. Age, neurotic constitution, auto-intoxication, and reflex disturbances may play a rôle, and at times an important one.

The diagnosis is to be made by the exclusion of gross brain disease and intoxications, and after a careful examination this is not usually difficult. If the patient is seen for the first time during an attack there may be a question as to whether it is apoplectic or epileptic, and time alone may make the diagnosis clear. Epilepsy differs from ordinary syncope by its sudden onset, the convulsive movements, the complete loss of consciousness, and the absolute lack of recollection of the attack on the part of the patient. The minor attacks and "absences" may offer more difficulty, but a careful study of the case will generally make evident its nature even when severe attacks are not present. That the prognosis is unfavourable is evident from the nature of the case, as arterio-sclerosis is an incurable disease, and the fits constitute a direct menace to life. However, years may elapse before the fatal issue, and by suitable treatment a good deal may be done to favourably influence the course of the affection and to prolong life. As arterio-sclerosis is practically always present a dietetic and hygienic régime suited to this disease should be insisted upon, and the appropriate medicinal treatment should be applied. The occurrence of the fits does not seem to be influenced by the use of bromides to anything like the same extent as in early life. In the cases of cardiac epilepsy reported by Lemoine, bromides were without effect, while by the use of the cardiac tonics, notably digitalis, the fits were very much diminished in number. Naunyn and others have had a similar experience in senile epilepsy. In arterio-sclerosis, however, though digitalis is sometimes indicated when there is great failure of compensation, with œdema, &c., it has the disadvantage of increasing the arterial tension, so for constant use strychnine and caffein will be found the better heart tonics. When the pulse tension is high they may well be combined with nitro-glycerine or with sodium nitrite. Mahnert suggests the combination of caffein and bromides in an effervescent drink. If casual agents other than arteriosclerosis are found they should be removed if possible. In any event

attention should be paid to the digestive and excretive functions, and an effort should be made to combat anæmia, if present, to regulate the circulation, and to improve bodily nutrition.—*Medical News*, March 5, 1898.

28.—THE TREATMENT OF INEBRIETY.

By A. L. BENEDICT, M.D., Buffalo, N.Y.

[The following is from Dr. A. L. Benedict's paper :]

It must be remembered that inebriety is not the same condition in all persons. The practical management of the case depends on the answer to these questions, which are often badly confused by temperance speakers :—Does the man drink from love of the taste of liquor? Does he drink from love of the physiological effect? Does he drink because his life is so miserable that partial or complete unconsciousness is pleasanter than sentient existence? Does he drink because, for none of these reasons, alcohol possesses a mastery over him which he cannot shake off? Strange as it may seem to some abstainers, a man seldom uses liquor to excess because he likes the taste of it. When a man or woman uses liquor for the sake of obtaining oblivion the hope of cure is small. Sometimes the social element seems to be almost the only factor in producing inebriety, the patient suffering relapses only from the more or less deliberate temptation of acquaintances. Sometimes, too, several causes act simultaneously to determine over-indulgence in alcoholic beverages. If we can be sure that the case in question is of the comparatively rare type of taste-attraction, two courses are open—we can either give some comparatively harmless substance which shall serve as a substitute or we can make the liquor itself distasteful by combining with it some nauseous substance which shall produce so profound a mental impression as ever afterward to be associated with the taste of the liquor, or we can simply tire the patient of the liquor by giving it protractedly without resting the taste-bulbs by other impressions. The first method consists in the use of some pungent gum or fruity substance or chocolate, the stimulation of the alcohol being represented by iris, capsicum, caryophyllus, &c. The second method is carried out by mixing almost any emetic with the liquor, being careful not to defeat our end by obtaining too prompt emesis. The third method is used in some of the prisons of Scandinavian countries, the culprit and patient being fed with bread dipped in wine till the alcoholic liquor becomes loathsome. It is said that this method is curative even when the cause of inebriety is something

else than the gratification of taste. We fear, however, that the loathing would soon disappear, just as it does when disgust at some solid food has been appeased by variety.

In other cases we believe that the secret of success consists in substituting for the will of the patient some effective means of control, actual confinement being usually necessary. The Keeley institutes have most happily combined surveillance without actual incarceration, suggestion, stimulation of the patient's own will-power, supporting medication, and medication tended to excite disgust at the taste of liquor. That they are unethical there is no question; that they have done some good no impartial observer can deny; that they have not always cured is established by numerous recorded back slidings. The patient loses his desire for whisky and apomorphine, and, fortunately, he is a long time in learning that the drink of whisky and the injection of apomorphine are independent factors which may be separated outside the hospital. He is thoroughly imbued with the fear that a return to alcoholic beverages will prove immediately fatal, and it takes him months before he overcomes this fear or is tempted into testing its validity. Once having learned that the fear is groundless some relapse into drunkenness; others have so far recovered their will-power and their self-respect that they continue "cured." As regards drugs, strychnine and atropine fulfil all but special indications for supplying the "bracing" effect of alcohol, as far as anything on earth can take the place of alcohol for one who has learned to use it to excess. We believe that there is urgent need for institutions mid-way between hospitals and penitentiaries, at which every one can be treated for alcoholism, according to his means. We believe that, without the expense of the so-called "cures" and without their objectionable methods of dealing with ethical questions, institutions may be conducted which shall be under the management of competent members of the regular profession, and which will secure good results in relieving those inebriates who really desire to be cured and are willing to lend their own efforts to support those of the physician.—*Therapeutic Gazette*, December 15, 1897.

29.—APHASIA.

By BYROM BRAMWELL, M.D., F.R.C.P. Ed.

[We take the following, chiefly relating to the re-education of the speech centres, from Dr. Bramwell's interesting paper :]

The capability of being trained and educated so as to actively carry on the speech functions which the speech centres in the inactive side of the brain (the right side in right-handed

persons) possess, varies greatly at different ages and in different individuals. In young persons and in persons whose brain vessels and brain tissues are healthy, the most profound aphasia (due, for example, to embolic plugging of the nutrient artery) may be completely, or almost completely, recovered from. I have met with more than one case of this kind in right-handed persons, in which there was every reason to suppose that the recovery was due to the inactive speech centre in the right hemisphere being gradually educated to take up and carry on the function of the previously active speech centre in the left hemisphere which was destroyed. Dr. Barlow's well-known case conclusively proves this proposition. The speech centres are bilaterally located, but, in the great majority of persons, at all events, they are only unilaterally educated and active; or, perhaps, to speak more accurately, only sufficiently educated to actively (obviously) carry on the speech function on one side of the brain—the side which in the particular individual happens to be the "leading" or "driving" side, *i.e.*, usually the left side of the brain, since most persons are right-handed. The education of the inactive or apparently inactive speech centre is the only way in which compensation can be effectively produced, when the formerly (usually) active centre is completely and permanently destroyed. The length of time which is required for the restoration of the speech function by this method of compensation will necessarily depend upon—(a) the relative amount of education and functional activity which the corresponding (less active) speech centre in the opposite hemisphere of the brain possesses at the time of the lesion; (b) the special speech centre which happens to be destroyed (auditory speech centre, visual speech centre, or motor vocal speech centre); (c) the age of the patient; (d) the integrity and plasticity, so to speak, of the brain tissues; and (e) the condition (whether healthy or diseased) of the cerebral arteries.

In those cases in which the inactive speech centre (on the uninjured side of the brain) is, at the time of the occurrence of the lesion, practically speaking altogether untrained or apparently almost altogether untrained (as seems to be the case in most right-handed persons, so far, at all events, as the visual speech centre and the motor vocal speech centre are concerned), the process of recovery and compensation will necessarily be very slow and gradual. Practically speaking, in such cases the patient is reduced to the position of a child who has not learned to speak or to read. In the treatment of cases of this kind the ordinary methods of training which are found most effective for teaching the child to speak and to read must be diligently and persistently carried out. In cases of word-deafness the same (Nature's) plan of treatment must be adopted, but in the case of

word-deafness the recovery is usually much more rapid and complete (than in the case of motor vocal aphasia and word-blindness); for, as we have already seen, there are some grounds for supposing that in some persons, at all events, the inactive (or in such persons the less active) auditory speech centre (in the right hemisphere in right-handed persons) is at the time of the occurrence of the lesion sufficiently educated and prepared to carry on, in some (though at first it may only be in an imperfect) way, the function of the more active auditory speech centre in the left hemisphere which is destroyed. In other words, in many persons word-deafness is, for the reasons just advanced, more difficult to produce, and when it is produced is more easily and more quickly recovered from than the other forms of aphasia (motor vocal aphasia and word-blindness). In those cases in which the aphasia (other than word-deafness) is quickly recovered from, the recovery is no doubt usually due to other causes than the method of compensation (by education of the corresponding inactive centre in the opposite hemisphere—always a slow and tedious process) which has just been described.—*Edinburgh Medical Journal*, October, 1897.

30.—SOME OBSERVATIONS ON THE TREATMENT OF TABES DORSALIS.

By DANIEL R. BROWER, A.M., M.D.,

Professor of Mental Diseases and Therapeutics, Rush Medical College, &c.

[The following is taken from Dr. Brower's paper :]

I am of the opinion that with many a too gloomy prognosis is made. In my experience the arrest of the disease is not infrequent, when the treatment is commenced in the pre-ataxic stage, and considerable improvement is possible even when the second and third stages of the disease have been reached prior to its commencement. The disease does not always interfere with the very successful use of the inherent powers of the patients.

Treatment.—The first consideration in the treatment is the climate, and, whenever it is practicable, a warm, dry, equable climate of low level or moderate altitude should be selected as the place of permanent residence for the patient. If the case is not advancing rapidly an ocean voyage, giving the maximum amount of fresh air with a minimum amount of exertion, is often beneficial. The next important consideration is rest. When the disease is advancing rapidly absolute rest in bed, with daily massage and the faradic exercise of the

muscles is indicated, and this may often be continued with advantage for six or eight weeks and then patients gradually resume their ordinary avocations; and in every case I think a portion of each day should be spent in the recumbent position. I advise business men to provide themselves with a lounge in their office, and spend at least one hour in the recumbent position, and in this position they can transact much business and at the same time give rest to the spinal cord. Excessive mental work and physical fatigue should be avoided; sexual excesses are especially harmful and seem to contribute to the production of optic nerve atrophy. Whatever exercise the patient takes should always stop short of fatigue. Traumas being of serious consequence, especially concussion of the spine, should be avoided with great care. The training of the muscles in the work of co-ordination, as proposed by Fraenkel, I endorse, and advise various exercises, such as he proposed, for an hour or an hour-and-a-half daily, and it is surprising what amount of power of co-ordination will be regained by the judicious following of this teaching.

The gastro-intestinal tract demands special attention; lavage and bowel irrigation are often indicated. Gastric crises are provoked by indigestion and colonic impaction. Food, therefore, should be easily digested, and constipation should be avoided. A change of life from one of activity to one of inactivity, forced upon the patient by the disease, tends to develop gout in those who are predisposed to it, and this should be constantly borne in mind and the diet regulated accordingly. Excesses in alcoholics and in smoking should be avoided. Electricity, especially the static form, from a machine of high potential, by insulation and by heavy sparks from the spine and lower extremities, is usually of very much service. Faradisation of the skin by the wire brush electrode is also beneficial. These two forms of electricity, in my judgment, are very far superior to galvanisation. When the bladder or its sphincter is weak faradisation of this organ is often of service. Suspension, first brought to our notice by the Russian physician, Motschutkowski, is of service when the disease is advancing after a more or less lengthened stationary period. I am sure that it is of service, although the practice is being abandoned by a great many. Stretching the sciatic nerves by manipulation in the same class of cases gives results somewhat similar to suspension. Cold or tepid baths at a temperature not to exceed 96° F., especially with jet or shower accompaniments, are useful. A hot bath, in my judgment, is often very injurious.

In those cases of tabes dorsalis in which the symptoms have developed very rapidly and the syphilitic infection is recent, vigorous antisiphilitic treatment is beneficial, and it should

consist in the largest possible doses of the iodide of potassium together with the hypodermatic use of mercury. But in those cases of locomotor ataxia where the development has been slow, and where a long interval has elapsed since the primary symptoms occurred, I am sure that this form of medication often does great harm. An alterative on which I place the greatest reliance is the chloride of gold and sodium. I think that this drug has some power in arresting the progression of connective tissue hypertrophy in the spinal cord as well as in the liver and kidneys. I am in the habit of giving this drug in the tenth of a grain doses (.006 gram.), three times a day, and usually combine it with the resin of guaiac (.18 grams.). This drug being a tonic as well as an alterative, it is indicated in the several stages of the disease, and may be continued with advantage for months at a time. The next drug upon which I place reliance is a preparation of phosphorus, and for this purpose prefer the phosphide of zinc. This I give in the eighth (.0008 gram.) or tenth (.006 gram.) of a grain doses three times a day after meals. As a tonic and alterative, in alternation with the above I use arsenic, preferring the arsenate of sodium in about the twelfth of a grain (.0054 gram.) doses, to any other of the preparations of arsenic.

When the disease has taken upon itself a rapid developmental state, full doses of ergot, with the rest before indicated, will sometimes stop the rapid progression of the disease. For the pains I have found that extract of cannabis indica, injections of cocaine, and acetanilide alone, or in combination, are the most successful. I have seen no especially beneficial results from the use of nitrate of silver, aluminium chloride, or of mercury in ordinary cases, and my experience is emphatically against the use of strychnia in this disease. I am very confident that I have seen more than one case very greatly injured by the use of even ordinary doses of strychnia.—*Journal of the American Medical Association, January 22, 1898.*

31.—LOCOMOTOR ATAXIA IN HUSBAND AND WIFE.

By E. F. TREVELYAN, M.D.Lond., B.Sc., M.R.C.P.,
Assistant Physician to the General Infirmary at Leeds; Professor
of Pathology, Yorkshire College, Victoria University.

[The details of the cases are omitted. The man was 58 and the woman 55 years of age. They have both had the disease certainly over 20 years and probably nearly 30 years.]

The diagnosis in these cases requires no discussion, for it is obvious; but there are two points that may be referred to here,

namely, the hemiplegia in the man and the occurrence of the double arthropathy and spontaneous fracture in the woman. Both temporary and permanent hemiplegias have been noted in the course of locomotor ataxia. Minor has specially dealt with this subject. They have been looked upon as syphilitic manifestations, and to some extent as confirmatory of the part played by syphilis in the causation of locomotor ataxia. In this case the weakness still persists, but it is not marked. As far as is known there has been no return of the knee-jerk here, as has been noted by some observers. An interesting case of arthropathy with spontaneous fracture was reported by Pitres and Carrière, with special reference to the morbid changes in the nerves to the parts affected. The onset of the locomotor ataxia was apparently within ten years of marriage. It is interesting to note the interval between the commencement of the disease in the two partners, so far as it is possible to fix the onset of so insidious an affection as locomotor ataxia is. In the above instance this interval appeared to be one year and a half; in other recorded cases, as far as can be ascertained from the notes, it has generally been from two to five years, but occasionally it is stated that the disease has existed in one partner for many years.

Apparently the longest interval precisely stated (twenty years) is in Pearce's case, but there is admittedly some doubt here as to the nature of the disease in the husband. The number of cases in which locomotor ataxia has been noted in married couples is comparatively few. Such cases have been recorded by Erb, Strümpell, Goldflam, Dawson Turner, Moebius (three instances), Mendel (two instances), and Pearce and Weir Mitchell (four instances). There have been other cases in which one of the partners has suffered from locomotor ataxia and the other from combined locomotor ataxia and general paralysis, or from general paralysis alone (Lührmann, Redlich, Mendel). Finally, to complete the series it may also be mentioned that general paralysis has been known to occur in husband and wife (Siemerling, Westphal, Mendel, and others). Of combined general paralysis and locomotor ataxia in both parties I have found no record. The occurrence of locomotor ataxia in married couples has been looked upon as confirming the current view of the relationship of this disease to syphilis. Erb, writing in 1892, goes so far as to say that tabes dorsalis occurring in husband and wife without previous syphilis does not appear to exist. This view is perhaps rather an extreme one. In the case recorded here the history of the offspring gave the clearest possible indication of past syphilis in the parents, but an exhaustive inquiry into the personal history was precluded for obvious reasons in this bedridden couple. A more special

interest is perhaps attached to the cases in which an undoubted syphilitic manifestation has been observed in one partner during the course of the locomotor ataxia, such, for instance, as the syphilitide seen in Strümpell's case or the gumma of bone in Lührmann's patient. During the past twenty years and more the evidence in favour of a close relationship between syphilis and tabes dorsalis has been accumulated to an almost overwhelming degree by Fournier, Erb, Grasset, Gowers, Moebius, Oppenheim, and others. It is true that the statistical method has been chiefly relied upon in these researches, but very large numbers have been dealt with, and it seems almost impossible to resist the direct conclusion which these figures naturally lead to.

It is certainly a striking fact how rare it is not to obtain a distinct and unmistakeable history of syphilis in the very large majority of tabetics presenting themselves in an ordinary outpatient room. Yet obviously only very large figures can be of service in the statistical method, and the percentage of syphilis obtained is then compared with that found in other patients. There are, however, still one or two distinguished authorities, such as Leyden, &c., who deny to syphilis almost any part whatever in the causation of locomotor ataxia. The doctrine is once again attacked by Leyden and Goldscheider in their recent and interesting volume in Nothnagel's *Handbook*, where it is stated that cold is the most important and frequent cause of tabes. Still others are disposed to think that the part attributed to syphilis has been overdone (Carderelli, Redlich). Few, if any, observers believe that syphilis is the sole and only cause of locomotor ataxia, although the renewed statistics published by nearly every author have shown a steadily advancing increase in the percentage of past syphilis among tabetics; thus, for instance, Erb has reached the formidable figure of over 90 per cent.

It is not proposed here to touch upon other evidence adduced for or against the above-mentioned view—such, for instance, as the nature of the pathological lesions sometimes found, the inefficiency or otherwise of other causes, &c. The relation of syphilis to tabes dorsalis is not of theoretical interest alone, because the question arises as to whether the disease may be benefited in its earlier stages by anti-syphilitic treatment. Very divergent views are held upon this subject; but it may, perhaps, safely be stated with Moebius that an anti-syphilitic course judiciously carried out will not harm the individual, and may do good, and this is especially true if there is a comparatively recent history of syphilis, and the more so if some syphilitic manifestation is still present.—*British Medical Journal*, April 9, 1898.

32.—INTRADURAL TUMOUR OF THE DORSAL SPINAL CORD.

By DUNCAN BURGESS, M.B.Camb., M.R.C.P.Lond., Physician to the Sheffield Royal Hospital.

[In Dr. Burgess's very interesting case there was pain and loss of thermal but not tactile sensation.]

Mrs. E. K., aged 53, a file-cutter, came under my observation on August 17, 1896.

History of Illness.—She began to suffer from pain in the legs in March, 1896. It gradually extended up the abdomen and became so severe, especially in the left leg, that she had to give up work at Whitsuntide (May 23). About the first week in June she noticed that her right leg was weak; she could not lift her right toe off the ground in walking. The weakness of the right leg gradually increased, and the left leg began to get noticeably weak about the middle of July. Aug. 17:—Temperature normal; urine 1010, no albumen, no sugar. Paraplegia, the loss of power being greater on the right side. She cannot lift either heel off the bed, but she can draw up the left foot, whereas she cannot flex at right knee. She cannot distinguish between a hot and cold test tube so readily when placed on right leg as when it is in contact with the left. Other sensory defects so slight as to be doubtful; plantar reflexes and knee jerks greatly exaggerated; both patellar and ankle clonus; abdominal reflex not obtained, and there is only just a suspicion of epigastric reflex. She can pass and retain water except when the burning sensation is severe at the lower part of the abdomen, and then she appears to have difficulty in micturating. Bowels kept regular by aperients. Sept. 4:—Bowels very constipated. Passes urine involuntarily (knows that it is being passed, but she cannot prevent it coming). Sensation of both pain and temperature impaired in both legs. It is impossible to define where a prick of a pin is appreciated as a prick and not as a knock, but the upper limit is higher on the right side than on the left, the level being apparently about the right nipple, the epigastrium in middle line, and the left lumbar region. Sept. 23:—Still appreciates a touch with the finger. Bed sore on sacrum. Occasional inability to control her motions. Nov. 18 (from the note by Dr. Adams, the clinical clerk):—“There are no voluntary movements in either lower extremity. Frequent spasmodic contractures of the muscles of the legs and thighs occur independently of any stimulus, but are readily excited by such. A slight touch, as with a feather, often not felt, but repeated or coarse touch with the finger is appreciated. This obtains up to the level of the nipples in front and the angles of the scapulæ behind, but the defect, though greater on the right side of the abdomen than on the left, is not so marked as in the legs. There appears also to be some defect of localisation to touch on the legs and abdomen. A prick is often not felt at all, or is described as something hot and cannot be localised. The impairment of thermal sensibility is most marked in the lower extremities, but it exists up to about the level of the nipples in front and the angles of the scapulæ behind. Urine runs away continuously. The act of defæcation takes place involuntarily, but the patient is conscious of it. Diminished reaction of muscles of right leg to faradism as compared with the left.” Dec. 9:—Distressing vomiting for several weeks. Urine 1015, faintly acid, containing small quantity of albumen, no sugar. Dec. 18:—“The loss of temperature sense is now absolute in the legs. The loss over the abdomen and chest has progressed since last examination.

Knee jerks present on both sides but barely obtainable on the right, though patellar tendon is quite loose. No voluntary movements in lower extremities." A touch with the finger could still be appreciated. Condition as regards painful impressions doubtful. Dr. Adams found the level of impairment of thermal impressions higher in the axillæ than in the middle line. A band of about two inches above level of nipples formed a transitional area. Jan. 21, 1897:—Pulse irregularly intermittent; knee jerks not obtainable; rigidity of legs. March 30:—Thermal sensibility absolutely lost all over both legs and greatly impaired up to fourth costal interspace. Pulse 120, small, soft, irregular. Death, April 7. Post-mortem:—Cystitis and suppurative pyelonephritis. An oval tumour, which measured three-quarters of an inch by half an inch after being hardened in Müller's fluid, was found attached by a broad base to the internal surface of the dura mater right in front of the spinal cord, about the level of the attachment of the roots of the fourth dorsal nerve to the cord. Microscopical examination showed the tumour to be a spindle-celled sarcoma. The cord was much flattened and very soft where pressed on by the growth.

Remarks.—The dissociation of thermal from tactile sensibility, which was the most marked feature of the case, existed for six months. The insensibility of the skin of the legs to painful impressions at the same time that the patient complained of burning pains and also of cramp-like pains from spasmodic contractions of the muscles of the leg, seems to be noteworthy. The case seems to prove that continued and increasing pressure on the front of the dorsal spinal cord causes first pain in the legs, then loss of voluntary movements, and later impairment of the sensibility of temperature, and pain beginning in and continuing most pronounced in the legs. A touch of the finger may be felt and localised below a very severe transverse lesion of the cord. With regard to diagnosis, the mode of onset of the paraplegia suggested a tumour of the cord. The dissociation of thermal and tactile sensibility, and the absence of symptoms of irritation of nerve roots, led me to conclude that the tumour was in the substance of the cord. The rapid onset and the subsequent progress, with no symptoms of syringomyelia of the cervical cord, were against a slow-growing extensive central glioma. Anti-syphilitic treatment made the patient worse, and there was no evidence of tuberculosis. Intra-medullary sarcomatous tumours are very rare. I was unaware at the time of Beavor's case (*Clinical Society's Transactions*, vol. xxvii.), in which symptoms simulating syringomyelia were produced by a tumour pressing on the cord. Had I been so, and given due weight to the symptoms, I might have diagnosed my case more exactly. It would have been impossible to have localised the growth until six months after the onset of symptoms, when the cord must have been very considerably damaged. The position of the tumour under the dura mater, and right in front of the dorsal cord, would have made an operation exceptionally

difficult. According to Leyden (*Die Erkrankungen des Rückenmarkes*, 1895), 14 cases of operations for tumour of the cord have been published. Of these only four were successful. It appears that intradural tumours are more common than extra or epidural in the proportion of 38 to 20 (Horsley).—*Quarterly Medical Journal*, April, 1898.

DISEASES OF THE ORGANS OF CIRCULATION.

33.—ADHERENT PERICARDIUM.

By Sir WILLIAM BROADBENT, M.D.

[The following is taken from the report of the meeting of the Medical Society of London, in *The Lancet*, January 15, 1898:]

Sir William Broadbent opened a discussion on adherent pericardium. He remarked that this condition often escaped recognition and an absolute diagnosis could rarely be made. Even total adhesion might not give rise to symptoms or signs provided that there were no outside adhesions of the pericardium to the chest wall. But while it might not give rise to shortness of breath on ordinary exertion it might hamper the right auricle and ventricle in cases of bronchitis or might hinder the hypertrophy of the left ventricle in Bright's disease, and again might aggravate the embarrassment of the heart in cases of valvular disease. Frequently there was nothing characteristic about the symptoms, which were merely those of embarrassment and dilatation of the heart and occurred in all forms of cardiac disease, such as irregularity and intermittence of the pulse and præcordial pain, frequently almost anginal in character. These would only be regarded as evidence of adherent pericardium when other causes had been eliminated. In one case the symptoms were peculiar; there was œdema of the legs, which subsided when the patient rested in bed, but relapsed several times and then became permanent; there was never any evidence of back-pressure in the lungs or any pulsation in the neck. At the necropsy it was found that there was adherent pericardium, which had almost obliterated the right auricle, completely closing the inferior vena cava. Sir William Broadbent mentioned several conditions of valvular disease in which the occurrence of adhesion of the pericardium would prevent compensation. The physical signs on which most weight should be placed were:—(1) Arrest of the normal respiratory movement seen in the epigastrium; (2) imperfect descent of the apex beat during inspiration; and (3) absence of

shifting of the apex beat with changes in the position of the patient. None of these, however, necessarily implied adherent pericardium. Disappearance of the apex beat might be due to undue covering of the heart by the lung as well as to adherent pericardium. Dilatation and hypertrophy of the heart in the absence of valvular disease or of kidney disease were very suggestive of this condition, especially if the apex were outside the nipple line and did not shift with a deep inspiration and there was a diastolic tug at the apex. In some cases a sudden tug could be seen and felt over the left false ribs due to dragging on the diaphragm which might be so extensive as to suggest local pulsation. Similar tugging had been observed in cases of hypertrophy without adhesion. Pulsus paradoxus and pulsation of the veins had been described as frequent symptoms, but he had rarely met with them. In one case there was apparent pulsation of a vein in front of the chest owing to the internal mammary artery being caught by adhesions, so that blood could only pass through it when the heart was in a state of systole.

In the discussion, Dr. Samuel West said that he did not know that there was any evidence that pericarditis ever completely cleared up, although the patient might not have any symptom. In many cases the diagnosis was only made because other explanation of the signs and symptoms was wanting. Systolic recession of the apex beat, although conclusive, was so rare as to be of little help. The adhesion might be most dense at the base, and might prevent falling back of the apex beat during the diastole. The fibrous tissue of the pericardium was directly continuous with the fibrous tissues outside the heart and with the intermuscular septa, and interstitial myocarditis could often be demonstrated. There was usually more dilatation than hypertrophy, and apparent hypertrophy was often really fibrosis. He quoted a case similar to that cited by Sir William Broadbent in which the inferior vena cava had been completely obstructed by adherent pericardium. Dr. West remarked on the frequency of a latent form of pericarditis leading to adhesions in gout and in Bright's disease.

34.—HEART COMPLICATIONS IN DIPHTHERIA.

By CLEON MELVILLE HIBBARD, A.M., M.D.,

First Assistant Resident Physician, South Department of the
Boston City Hospital.

[The following is taken from Dr. Hibbard's paper in the *Boston Medical and Surgical Journal*, January 27, 1898 :]

The following observations are the result of a study of 800 consecutive cases of diphtheria in the South Department of the Boston City Hospital :—

Pulse-Rate.—Observations on the maximum rate were made in 798 cases. The results were as follows :—

Rate.	Recovered.	Died.	Mortality. Per cent.
Less than 130	436	22	4·8
130	114	22	16·2
140	85	19	18·2
150	24	16	40·0
160	18	23	56·1
170	1	7	75·0
180 and higher	1	10	90·9

In over half of the cases the rate did not exceed 130 per minute, and the mortality among these was less than five per cent. As the rate increased so did the percentage of death. Less than half of those whose rate was 150 or over, recovered. In other words, a high pulse-rate of 150 or more is prognostic usually of a fatal result.

Bradycardia.—In twenty-three cases the pulse-rate was as low as 60 per minute on one or more occasions. Among the fourteen who were 17 years of age or older there were no deaths, and only two had other cardiac symptoms. Of the six who were less than 7 years, there were four deaths from heart and one from lung disease. Of nine who were less than 17 years, all but one had had some other cardiac symptom. Thus it appears that in diphtheria a transitory slow pulse in adults has no special significance; while in children, and particularly in young children, it is a symptom of cardiac trouble, often of a grave nature.

Irregularity of Pulse.—This was noted in 70 cases of this series; but this number cannot be taken to represent the exact frequency, as some cases were doubtlessly not recorded. However, it can be safely said that at least 10 per cent. of diphtheria cases have an irregular or an intermittent pulse some time during the course of the disease. It was observed generally in the severe cases of infection, and but six times in the mild attacks. The time when it was first recognised varied anywhere from the day of admission to several weeks in the convalescence; often it was during the first few days that the patients were up, especially if they became fatigued. The duration lasted from a day to weeks. Excepting in the fatal cases, it usually disappeared in a few days if the patient remained quiet in bed. The significance of this irregular pulse is shown by the fact that in over half of the cases where it was observed there were other heart symptoms, as murmurs, or the patient died of cardiac trouble, as from dilatation and heart paralysis. An irregular or intermittent pulse was often noticed several days before the appearance of the systolic murmur at the apex. The frequency of this irregularity in the fatal cases of diphtheria is seen in the statement that it was noted in one-fourth of them, which is

surely too low a percentage. The mortality among these 70 cases, with an irregular pulse, was 31, or about 47 per cent. ; in 19 of the 70 cases there was also an intermittency with 9 deaths. The cause of this arrhythmia is most probably due to certain changes in the vagus nerve interfering with the innervation of the heart or to local changes in the cardiac ganglia or the myocardium. No record was kept of irregularities in the volume of the pulse. However, it was often noticed when the rate was rhythmical; and such variations in the volume are surely as common as in the time. A weak pulse was more frequent than an irregular one, and was of about the same clinical importance as to the prognosis and the treatment. A reduplication of the heart's second sound was observed in six cases. A systolic murmur at the apex was heard in four of these. Three of these six cases died. There were doubtless other instances of a reduplication that were overlooked. Still, one must consider this as a symptom indicative of a possible serious result.

Cardiac Murmurs.—All the murmurs heard in the children in this series were systolic in time, with the exception of three cases of chronic heart disease. The location was about equally divided between those heard loudest at the base and those loudest at the apex. The basal murmurs, usually most distinct over the pulmonic area, were frequently heard on admission, continuing for a few days, or during convalescence, especially in anæmic patients. A systolic murmur at the apex was noted 57 times in this series. In another series of 252 cases where the hearts were examined almost daily, a systolic murmur at the apex was heard in 28 patients. In other words, a systolic murmur at the apex with an accentuated pulmonic second sound, and often with some enlargement of the cardiac dulness, is seen in about 10 per cent. of diphtheria cases during the course of the disease. The time when it first appeared in 44 cases was as follows :—

During first week of illness	..	..	..	..	..	..	9 cases.
" second	..	..	..	..	..	..	2 "
" third	..	..	..	..	..	..	9 "
" fourth	..	..	..	..	..	..	5 "
" fifth	..	..	..	..	..	..	2 "
" ninth	..	..	..	..	..	..	1 case.

The duration of this murmur varied from one day to several months. In 24 cases where the heart was under observation until the murmur disappeared the time was as follows :—

Within one week	..	..	..	..	..	..	10 cases.
" two weeks	..	..	..	..	..	..	6 "
" three "	..	..	..	..	..	..	5 "
" four "	..	..	..	..	..	..	1 case.
" five "	..	..	..	..	..	..	1 "
" eight "	..	..	..	..	..	..	1 "

There were 15 cases in which the murmur was heard on discharge at the end of from five to sixteen weeks from when first observed, and in some of these cases it was heard two months after leaving the hospital. The character of this murmur varied from a very soft blowing sound to a rough one. In some it could not be heard outside of the apex ; in others it was transmitted into axilla or heard over the left back. In two cases it was musical. This character of the murmur appeared in one on the tenth day, and was still heard at the end of five months ; the other on the thirtieth day, and disappeared in two weeks. There is no special prognostic significance to an apical systolic murmur with an accentuated pulmonic second sound when the patient is kept quiet. The mortality among these cases having such a murmur was practically the same as for diphtheria cases in general. However, when there is associated with these signs marked enlargement of the area of cardiac dulness, that is in children, as much as two centimetres outside of the normal limit, the prognosis is usually fatal. In other words, the significance of this murmur depends entirely on the nature of its cause. The etiology of this murmur in diphtheria is probably due to a variety of conditions ; possibly, but rarely, to an endocarditis from the diphtheria bacillus ; but generally to a relative mitral insufficiency. This inadequacy is due in all probability to an insufficient contraction of the cardiac muscle, or to a dilatation of the ventricle owing to changes in the innervating nerve or the myocardium itself. If the murmur is due to only a slight weakness of the heart muscle, the prognosis is usually good, since the murmur generally disappears after a few weeks, providing the patient is kept quiet in bed. If the cause is from a dilatation of the ventricle the outlook is less favourable, and depends upon the degree of the dilatation.

To sum up—The great importance of this murmur is, that it informs the physician that there are some changes in the heart's machinery and that no extra strain should be put upon that organ ; and it again informs him of the necessity of frequently determining the area of cardiac dulness in these patients to ascertain if there is any dilatation. The treatment of these cases was, first of all, rest in bed ; the patient was kept as quiet as possible in a recumbent position, usually, until the murmur had disappeared for a week. Then the child was allowed to sit up for a short while. The time of being up was extended if the murmur did not reappear, otherwise the child returned to bed. If the murmur persisted at the end of six or eight weeks and there was no dilatation, and the heart's action was regular, the patient was permitted to sit up an hour or less, daily, for a week. At the end of this time, there being no untoward symptoms, the time was gradually lengthened until the patient was up for the

greater part of the day. In one instance it was four months before the patient could be up all day without ill effect on the heart. The medical treatment consisted usually in strychnia, alcohol, digitalis group and occasionally caffeine.

35.—THE HEART AND THE BICYCLE.

By M. HUCHARD, Paris.

[The following is taken from Dr. T. C. Minor's translation of M. Huchard's paper in *La Revue Medecale de Quebec*. The subject is one of considerable importance, owing to the frequency of immoderate cycling :]

The bicycle, even in moderation, should be absolutely forbidden in all cases of arterial cardiopathy and aortitis, even when they are latent ; in dilatation or aneurism of the aorta among patients suffering from toxo-alimentary dyspnoea, coronary or nervous angina of the heart ; from cardio-sclerosis or nephro-sclerosis, even at its commencement ; from essential tachycardia ; from slow pulse with syncopal attacks ; from valvular cardiopathy when already free from the hyposystolic period ; from dilatation of the right heart consecutive to dyspepsia, or any affection of the digestive tract or old age ; and, again, it should be absolutely forbidden at all periods of pulmonary tuberculosis. The bicycle must be watched in all well-compensated valvular affections, especially when the patients present signs of nasal impermeability. Among valvular patients, mitral contraction, a dyspnoeic affection above all offers a strong contra-indication to the use of the bicycle. Intermittences or faulty beating heart are not contra-indications, since such alterations of cardiac rhythm are often independent of any lesion of the organ ; but we must make an exception for the arhythmic form of cardio-sclerosis. The bicycle may be advised in neuropathics, in anæmics, and to chlorotics, for subjects attacked by gout or obesity, in uric acid diathesis, in profound varices of the lower extremities, and for dyspeptics in cases where no existing gastric conditions shall have affected the heart.

Finally, the question of treatment of certain affections of the heart by bicycle exercise, even in moderation, must be put in issue, for new observations are necessary before we can be positive on this subject. The considerations that I have entered here, and which are supported on my personal experience as well as that of various authors, will permit us, I hope, to solve one of the most delicate questions in the practice of medicine. It will show at least that it is not necessary to always support one's self on the latency of certain aortic

affections in order to permit us not to advise against the use of the bicycle in these cases, and beyond the case I have observed and that I have cited, I wish still to bring to its support the following observation, reported by Rendu to the Medical Society of Hospitals on June 6, 1897:—One of his *confreres* and friends, endowed with excellent health and never having had any serious illness, used the bicycle without excess during his spare time. Two years ago, in going up an incline with some speed, he experienced grave symptoms characterised by syncopal tendencies, excessive epigastric anxiety, persistent retro-sternal pain with cervico-brachial irradiations—in a word, with all the classical signs of an acute aortitis. Very soon dilatations of the aorta appeared, and the patient for a long time was short-breathed and had retro-sternal pain when mounting stairs rapidly. Under a prolonged treatment of iodide of potash in small doses all these symptoms, together with the aortic dilatation, disappeared. Fifteen months have passed and the bicycle has been abandoned. Doubtless in this case, as Rendu has judiciously remarked, one cannot say that the bicycle has been capable alone of creating an affection of the aorta, but it has certainly made a rapid evolution of an affection that prior to that time was latent. I have before remarked that for aged persons the simple use of the bicycle is always an abuse. Let me add that it should be forbidden to those not previously accustomed to its use. Let me cite two cases from Dr. Petit:—A man, aged 68 years, taking lessons on the bicycle in a school of instruction, on dismounting from his machine, feeling ill at ease after only three turns of the wheel, fell dead on the ground. Another man, the same age, as “awkward on the wheel at the end of three weeks as on the first day,” and suffocating on the bicycle, ended by dying suddenly like the preceding personage. These various accidents cause one to reflect, and whenever I see persons of advanced age imprudently taking to the bicycle like young persons, it becomes cause for alarm.—*The Indian Lancet*, January 16, 1898.

36.—CARDIAC DISEASE.

By T. LAUDER BRUNTON, M.D., LL.D., F.R.C.P., F.R.S.,
Physician, St. Bartholomew's Hospital, London.

[Some of Dr. Brunton's paper has had to be omitted here.]

We have had in the wards two cases to which I wish to draw your attention, and these cases are instructive, first of all, as affording very well-marked types of severe cardiac disease; secondly, as showing how much our art has progressed; and, thirdly, as showing, unfortunately, how much remains for us

yet to learn. Because by the use of the various remedies we have been enabled to alleviate the pains from which those patients were suffering, but, unfortunately, in spite of all that we could do, both patients have died. From the signs which we found in the first case the diagnosis was that the aortic valves were thickened, presenting an obstruction to the flow of blood ; that the aorta itself was probably very atheromatous and rough ; and that the aortic valves were incompetent, allowing of the regurgitation of blood. In consequence of the condition of the valves the left ventricle itself had become hypertrophied, so as to make up, by increased muscular power, for the loss of the valves, which throws more work on the cardiac muscle. In consequence of the hypertrophied and enlarged heart beginning to degenerate, the left ventricle was commencing to dilate, and we had therefore secondary mitral regurgitation. Of course, in a case like this, it is very difficult indeed to say whether the mitral regurgitation is simply due to the mitral orifice becoming too large for the valves, or whether the mitral valves themselves are also diseased. At any rate, we knew that the mitral valves were not closing the mitral orifice, and that in consequence of this the man was suffering from mitral regurgitation. Consequent upon the mitral regurgitation, of course, there must be a certain amount of congestion of the lungs, or at least of the pulmonary capillaries, which interferes with the flow of blood through them, and causes shortness of breath. When we find that the heart is beginning to beat very quickly in any case of heart disease, we know that there is a great risk of its becoming exhausted. Now, in cases where the heart is barely up to its work, if you can lessen the work it has to do, so much the better for the heart ; and in cases of cardiac disease you may often do a very great deal indeed by simply keeping your patient quiet. It is not every man, however, who understands what is meant by quiet. In one case of a man we had, whose heart had been over-tried by the exercise he had had to take, naturally the first thing to be done was to lessen the work of his heart. He was accordingly put to bed and kept there, and was not allowed to get up for any purpose whatever. Almost immediately after getting rest he began to improve somewhat, but he did not improve quite at the rate which was either wished or expected. He was put simply upon a medicine which would do him neither good nor harm, but he had also some nitro-glycerine which he was to employ whenever the accession of pain came on. In these cases we have made a trial of various things which lessen the pain in angina pectoris. We have tried nitrate of amyl, nitro-glycerine, and a new drug, nitro-erythrol, all of which have the property of lessening the resistance in the vessels.

The pain of angina pectoris has been the subject of much discussion, and even now people are not agreed entirely as to its causation. I think, however, it may be safely held that the pain of angina pectoris, the pain which is caused by something in the hollow of that muscular organ called the heart, is like the pain which you find in other hollow muscular organs—in the stomach, in the intestine, or in the bladder. It is when those organs contract, and are unable to expel their contents, that you get pain in the stomach, pain in the intestine, or pain in the bladder; and the same, I think, is the case with the heart. The heart may have difficulty in expelling its contents from two reasons—either it may be too feeble, or the resistance which is opposed to it may be too great. It is not always easy to increase the strength of the heart, but we can often relieve the pain of angina pectoris by lessening the resistance. The first time a drug was used for this purpose was when I used it in 1867 in a case of angina pectoris, my using it being due to a knowledge of its physiological action. Gamgee found that nitrite of amyl had the power of lowering arterial tension, and by taking sphygmographic tracings of a case of angina pectoris I found that during the attack the tension was greatly raised. I tried it and found it answered. Since that time it has been used, and several other nitrites have also been employed. All the nitrites have a similar action. The great disadvantage of the simple nitrites is that they act for too short a time. They act quickly, but the dilatation of the vessels which they induce is not kept up sufficiently long. For this reason nitro-glycerine has been employed—a nitrate which acts precisely like a nitrite, but for a much longer time. Tetro-nitrate of erythrol was therefore proposed by Professor Bradbury, and we gave it in this case. The spasms of pain were very slightly relieved indeed by nitrite of amyl; they were relieved more by nitro-glycerine; and the nitro-erythrol, according to the patient's own statement, seemed to be the most efficacious of all. By means of those three substances we were able to relieve the pain in this instance. All the nitrites are, however, simply palliative measures—they relieve the pain for the time being, but they do not relieve the condition of the heart and vessels upon which the pain depends. In order to try and lessen the condition which had given rise to the pain, we put this patient upon a plan of treatment which is usually most successful. We were unable to tell definitely the state of the coronary arteries in this patient, but, as a rule, it is found that the coronary arteries are involved in angina pectoris; so that the heart is unable to contract as it ought to do. Iodide of potassium has been found to be the one drug that is most serviceable by its continued administration in relieving the pain of angina pectoris and preventing its return. We put our

patient upon a mixture of iodide of potassium and salicylate of sodium. As you know, from inflamed joints, arthritis deformans is a disease that is very slightly ameliorated by treatment; and we know only too well that atheroma is only very slightly lessened by treatment. In order to obtain further improvement in this case massage was ordered. The effect of massage is to increase the general nutrition of the body by giving to the patient the same results as he would get from exercise. It is practically exercise without fatigue. The next step, which may be used when the patient is sufficiently strong, is to give active movement. The first stage in treatment in all cases of heart disease is perfect rest; the next is massage with passive movements, the patient making no movement himself; next to that comes active movement; and lastly, I may say, comes active exercise.

The patient had massage on November 26, but this was only continued for about a week; and then the next step was begun by giving the treatment which is known so widely now by the name of Schott's treatment. This treatment is exceedingly useful. It tends to cause the heart to contract, to beat more slowly, and to beat more firmly. We found in this case that the cardiac dulness became at first diminished, but after a while, without any reason that we could assign, the heart again began to dilate, and then, unfortunately, pain came on again worse than before, although for a time the pains had been less. Finally, the temperature began to rise, and the patient died, without any very good reason, so far as we could find, why he died at that time more than any other. There was no light thrown upon it by the post-mortem examination. In this case we were unable to proceed any further with either the movements or the baths, but, in cases where the patient gets so well as to allow of it, a further treatment may be used. This is generally known by the name of Oertel's treatment, and is simply a process of gradual training by exercise in the open air, making the patient walk slowly up a steeper and steeper incline day by day until he gets perfectly strong. It is the gentle increase day by day that will enable you to cure, or at least greatly benefit your cases of cardiac disease; and the great difficulty and stumbling-block that lies in one's way is the tendency to hurry the treatment. One is very tempted to go a little too fast and to make the patient go a little more quickly; against this one must try and guard.

In the second case we had probably to do with an atheromatous aorta, and probably some constriction of the aortic orifice. There was a diastolic murmur also, showing that there was aortic regurgitation, and there was also a loud double apical murmur of mitral regurgitation and mitral obstruction. In

addition to these changes at the orifices of the heart, to the mitral obstruction and mitral regurgitation, there was almost certainly adherent pericardium, because the patient had suffered very much from pericarditis before admission. There was also a great difference in regard to the liver. In the first case the liver was nearly normal in size, and there was little or no fluid in the peritoneal cavity; but in this case the liver was of enormous size, and there was a large amount of fluid in the peritoneal cavity. It was quite clear that the patient was not likely to get well, because we had tried all the drugs that seemed likely, and he was not much improved. It occurred to me that possibly by treating the aorta in the same way as one would treat a joint, one might get some good result. We finally tried the hot-air bath on our case by simply putting the left hand into the hot-air bath at a temperature of about 240° . Of course this temperature would be sufficient to burn the arm unless it were protected thoroughly by cotton-wool, and the air which surrounds it were perfectly dry, so that the arm is not burnt or scalded, as it would be by steam at the temperature of 240° . This plan had the curious result of raising the temperature of the body as a whole 2° , the thermometer in the mouth registering 2° F. more after the administration of the bath than it had done before. It seemed to me, and I think also to the patient, that he was somewhat relieved by this for a while; but this treatment also proved to be unsuccessful, and about ten days after the first patient died the second got a rise of temperature, and after the temperature had been up for two or three days he died also. These two cases show us that we can to a great extent relieve cardiac pain, but in very bad cases we are often powerless to avert a fatal result. Taken as a rule, I do not know that there is any class of cases more successful to treat than cardiac cases, and the general plan of treatment is this:—Take as little out of the heart as you can, and increase the nutrition both of the heart and the whole body as much as you can.—*Edinburgh Medical Journal, November, 1897.*

37.—THE PROGNOSIS IN CARDIAC DISEASE.

The attention which has of recent years been paid to prognosis in heart disease, and the increase of our knowledge with regard to it, has led me to its choice as the subject for discussion. Notwithstanding the progress which has been made, the prognosis in cardiac disease is still probably one of the most difficult questions in clinical medicine. The fact that some of the most serious and suddenly fatal forms of disease are at times preceded by so few symptoms will always make it

difficult to foretell the result in this class of cases. In the first half of life valvular lesions are the result of endocarditis, and the prognosis during the attack depends largely upon the nature of the infective agent. If endocarditis occurs during an attack of rheumatism the immediate prognosis is favourable, but the liability to the occurrence renders the future more uncertain. Endocarditis, which results from scarlatina, is not likely to occur. The prognosis in endocarditis, due to other infective agents, depends largely upon the particular micro-organism present, as well as the resisting power of the constitution ; it also depends largely upon the treatment adopted and upon the behaviour of the patient. A few moments of over-exertion during any stage may very much increase the gravity of the prognosis. Little reliance can be placed upon the volume of sound in aortic stenosis. The presence of dizziness and attacks of fainting are signs of cerebral anæmia, and therefore of a more serious lesion.

The prognosis in mitral stenosis is not so favourable as in regurgitation, first, on account of the tendency of the opening to become smaller ; second, in mitral regurgitation the force of the right ventricle acts in two ways : it resists the reflux into the ventricle, and fills the ventricle more rapidly in diastole. The prognosis of stenosis is not so favourable as when it occurs later in life. In aortic insufficiencies, three conditions may prevent a collapsing pulse in cases of grave prognosis :— (1) Aortic stenosis preventing the return of blood to the heart ; (2) the failure of the heart muscle, on account of which the blood is not propelled with sufficient force to produce a collapsing pulse ; (3) the loss of elasticity may prevent our noticing the collapse. Irregularity of the pulse, both in frequency and in force, occurs in the latter stage of the disease. Enlargement of the liver, venous stasis, œdema, albuminuria are, of course, unfavourable symptoms. If these conditions have been caused by overwork, or if rest is followed by a decided amelioration of symptoms, the prognosis is more favourable. The social condition of the patient may be an important factor. If he has plenty of means and the wish to take proper care of himself, he will probably live much longer than one who has to struggle to support himself and family. Personal habits play an important part, especially the use of tobacco and alcohol. I am firmly convinced that the deleterious effect of the use of tobacco is much under-estimated, and that it is frequently the cause of serious changes in the heart. Alcohol has an injurious effect, especially in the production of arterio-sclerosis.

It may be stated, by way of conclusion, that the patient of regular habits, who does not use tobacco ; who is either a total abstainer or a very moderate user of alcohol, possessing

an even temper ; whose calling requires a moderate amount of regular exercise ; who lives among healthy surroundings ; who has freedom from worry, is one who, other things being equal, stands the best chance of long life. Sex has an important bearing. Mitral stenosis occurs more frequently in the female, and aortic insufficiencies in adults. Broadbent says :—“When the valve disease comes on in childhood, girls break down at the period of puberty more often than boys.” (Dr. J. H. Graham, in the *Canadian Practitioner*.)—*The Medical Age*, February 25, 1898.

38.—THE TREATMENT OF FATTY HEART.

[The following is an abstract in the *New York Medical Journal*, March 19, 1898. The condition referred to is fatty infiltration and not fatty degeneration of the heart :]

In view of the frequency of its occurrence and the important consequences it involves, says a writer in *Treatment* for Feb. 24, there are few conditions of the cardiac muscle of such great interest as those in which its fibres show a fatty degeneration or in which fatty infiltration impedes its action. Starvation of the muscle from morbid impermeability of its nutrient vessels, the influence of a general and profound anæmia, and depression of the trophic influence of the vagus, may, he says, all play a part in different cases. Their malign influence may be combined in any single case, and the treatment of such cases presents difficulties which are in some instances insurmountable. Referring to the other class, that in which the heart is overlaid by fat, and its textures are infiltrated by it, the writer quotes the *Revue médicale* for January 31, 1898, which, he says, gives the substance of a paper on the treatment of this variety by M. Pliques, which appeared in the *Presse médicale*. In this paper it is very carefully pointed out that the necessary reduction of the *embonpoint* of such patients is a process that requires the utmost circumspection. For instance, when a long interval is prescribed between meals, physicians must be guided by the force of the heart and the occupation of the patient. He need not necessarily be bedridden. Many fat men with weak hearts are compelled to exert themselves continuously in more or less arduous fashion, and in such cases the intervals between meals can not be made so long as in the case of the favoured mortal who luxuriates in all the *dolce far niente* of a fashionable watering place.

Dr. Pliques's general directions, the author continues, are those usually given, such as to employ diuretic drinks, it may

be a reduction of fluid food, the elimination of sugar and fat from diet to a greater or less extent, the abandonment of alcohol and tobacco, and regulated exercise. He recommends the careful use of thyroid gland, a half or whole one being given daily, and appears to prefer the use of the natural structure to the extract much used in this country. As a cardiac stimulant he prescribes the hypodermic injection of sparteine, and considers that its use may be necessary for a considerable period. It is well, the writer thinks, to be exact in regard to the amount of food allowed to an obese patient, and to remember also that the size of the patient and the degree of the adiposity have to be borne in mind in laying down his dietary.

Moleschott, he says, calculated that the average human being required at least four ounces of meat, two ounces and a half of fat, and about twelve ounces and a half of carbohydrates daily. In some "systems," which have been more or less generally practised, there has been a tendency to eliminate one or other of the essential elements of food too much. For instance, in the Banting system, the practitioner aimed directly at the reduction of the fat. That was reduced to about a quarter of an ounce per diem. Only two ounces and a half of carbohydrates were allowed, but the prescriber relented in the matter of meat, allowing the patient five ounces and a quarter or so a day. Ebstein was less generous than Banting in the matter of carbohydrates and meat, allowing only an ounce and a half of the former and three ounces and a quarter of the latter, but he boldly doled out rather more than two ounces and a half of fat a day. Finally, Oertel, by whose recent death cardiology has lost a profound and rational thinker, struck the happy mean between these extremes, and prescribed from four ounces and three quarters to five ounces and a half of meat, from three quarters of an ounce to an ounce and a quarter of fat, and from two to three ounces of carbohydrates daily. Bearing in mind the enormous reduction from the normal consumption of carbohydrates, it is plain, the writer continues, that special care has to be taken not to restrict too much the other elements of food, or to make the patient consume his own fat too entirely and too rapidly. With so low a dietary it is manifest that exercise must be of a carefully regulated character, and it is such cases which frequently, in connection with a careful dietary, yield very good results to a course of Schott movements, which prepare the patient for the safe indulgence of more active exercise.

39.—NEUROTICS AND CARDIO-VASCULAR NEUROSES.

By Sir R. DOUGLAS POWELL, M.D.

In the Lumleian lectures, delivered before the Royal College of Physicians, Sir R. Douglas Powell deals with the principles which govern treatment in diseases and disorders of the heart. He begins by treating of such modifications of the cardiac functions as are the results of disturbed or even organically changed innervation of the heart and vessels, the heart itself remaining sound, for he takes the very useful position that all such causes are apt to act equally upon hearts that are unsound, and that it is the occurrence in cases of organically diseased hearts of what, when they occur in sound hearts, are spoken of as functional disorders, that causes many of the symptoms of heart disease. Functional disturbance is, he says, as frequently observed in association with diseased as with healthy hearts, and many of the troubles and some of the catastrophes of cardiac disease are attributable to functional derangement. The difference lies in the result. "Numberless people die from functional disturbance of a diseased heart, few or none die from a functional disturbance of a sound heart." His definition of a cardio-vascular neurosis is as follows:—An increased sensibility, and a disordered action of the heart and vessels not dependent upon structural change. There are a large number, perhaps an increasing number, of people who are morbidly conscious of their heart's action, and, indeed, of the function of their cardio-vascular system generally, or in particular parts. They feel disturbances, flutterings at the heart, throbbings, flushings, pallors of the surface or of particular organs, noises in the vessels about the head, and are conscious of the beating of their heart, and of any disorder of, or faintness in, its action. This condition and the thousand and one variations to which it is subject are the result of purely nervous disorder. It is among the class of so-called neurotics that functional disorders of the heart so largely abound; and, if one is to define what is meant by a "neurotic person," one may say that such a person is one whose whole nervous system, and especially that portion of it known as the organic nervous system, is hypersensitive and abnormally within his cognisance. The term "neurotic," however, must not be looked on as a term of reproach. It is not necessarily connected with hysteria, which indeed is but one of its lesser manifestations. It is a condition of nervous system which is sometimes acquired, but more often is hereditary, which is very widely prevalent, and is a factor which has always to be reckoned with in practical medicine; for whilst sometimes found amongst the self-indulgent it is quite as often seen

in persons with a high degree of self-control and a restless energy and enterprise, and is especially prevalent among the educated classes. There may then be said to be three stages or degrees of cardio-vascular hyperæsthesia. The first, consisting of an undue appreciation of the heart's action and of the blood circulating through the vessels, is extremely common in nervous introspective people, the heart's action being quite normal, but liable from slight causes to become paroxysmally excited and accelerated. These patients are generally of the neurotic class, but alcoholic, social, and tobacco excesses will produce the same effect. The next degree is that in which the heart's action is really oppressed. Increased arterial tension is an essential factor in this class of cases. These persons may not be introspective; their attention is not concentrated upon their circulation, but is compelled thereto by actual discomfort or pain, and it is interesting to note that that vague and ill-defined anxiety, concentrated about the heart, of which so many of these patients complain, is closely allied in character, and probably in mechanism, but in very mitigated degree, with that cardiac terror so characteristic of angina pectoris, the condition which may be taken as indicating the third stage or degree of cardio-vascular neurosis.—From the Abstract in *The Hospital*, April 2, 1898.

40.—THE ROENTGEN RAYS IN THE DIAGNOSIS OF ARTERIO-SCLEROSIS.

By CARL BECK, M.D.,

Professor of Surgery in the New York School of Clinical
Medicine, &c.

The value of the Roentgen Rays in internal medicine has not as yet been made so apparent as in surgery; but there can be no doubt that with the better interpretation of the shadows and the continuous improvement of diagnostic technics, the significance of the rays in the obscurer ailments will be convincing even to the mind of the most sceptical. A striking example of this may be found in the diagnosis of arterio-sclerosis—a diagnosis which is easy on the surfaces of the body, but very difficult in the deeper tissues. According to the text-books on internal medicine, the thickening of the tunica intima can not be recognised if it is confined to a small area or to single small foci. It hardly needs to be emphasised how important it is to know whether in a given case of sclerosis of the radial artery there exist foci in other vessels besides. Nor can it be indifferent what the number of these obstructive foci is, and whether an aorta or a temporalis is concerned. The

presence of a large number of foci means a loss of propelling energy in the circulation, which can be compensated only by the increased working power of the left ventricle. The arterial pressure thus becoming higher, hypertrophy of the over-worked ventricle will be the most natural consequence. If such foci are recognised at an early stage, proper prophylaxis can accomplish a great deal in preventing secondary disturbances. The prognostic significance of an exact knowledge of the condition of the arteries is also evident. The Roentgen rays give us a most reliable method of ascertaining the condition of the vessels, and this in nearly every part of the body. A case which I observed recently well illustrates these views:—

P. S., Cuban, 68 years of age, for whose case I am indebted to Dr. D. Cook, suffered from carcinoma mandibulæ, for which (October 10) I exarticulated half of the inferior maxilla and of the floor of the mouth. There was no reaction to speak of, and the patient was discharged from St. Mark's Hospital, October 31. Patient is strong and tall, has no alcoholic habits, never had any serious sickness, and suffers from neither palpitation, dyspnœa, nor vertigo. Cough has never been present. The facial and temporal arteries are not thickened, nor do they show any serpentine form. The facial artery, when divided during the operation, did not show anything abnormal. The heart is slightly displaced to the left; the murmur is clear. The urine shows neither sugar nor albumen. Both radial arteries show slight thickening on palpation.

To ascertain whether there were any arterio-sclerotic signs in the deeper tissues I exposed the patient's forearm, his head, neck, and femoral and aortic regions to the rays. Nowhere did the conspicuously developed plates show any indications of degeneration of any artery except on the forearm. The forearm is taken in pronation, the palm resting on the photographic plate. The radial artery can be recognised just below the bifurcation of the brachial artery, passing along the radial side of the forearm to the wrist, and winding round the outer side of the carpus. Less conspicuous is the anterior interossea, which, on account of the pronation, appears crossing the radialis in the middle of the forearm; both arteries narrowing and bending out in a bay-like form. Particularly interesting is the grading of the shadow according to the degree of the calcification of the artery. The clear demarcation between integument and muscular tissue also deserves notice. No trace of the ulnar artery was represented. On the photographic plate the details are shown much more distinctly than on the print. From the negative state of the other plates I venture to draw the conclusion that the patient's arterio-sclerosis is confined to the radialis and anterior interossea: a limitation which would harmonise with the good general condition and the absence of palpitation, dyspnœa, and vertigo.—*New York Medical Journal*, January 22, 1898.

DISEASES OF THE ORGANS OF RESPIRATION.**41.—PALPATION AND AUSCULTATORY
PERCUSSION.**

By ROBERT MAGUIRE, M.D. Lond., F.R.C.P. Lond.,
Physician to, and Joint Lecturer on Pathology at, St. Mary's
Hospital, London.

[The following is taken from Dr. Maguire's paper to illustrate the importance of careful attention to these physical signs. It would appear almost hopeless to attempt to attain to the perfection of skill sketched out in this paper.]

Further experience has further confirmed my opinion that palpation is, for most purposes, much more delicate than percussion, and, after a little practice, much more free from fallacies. To practice the method, it is well at first to press lightly and alternately with the first and second fingers of the right hand upon the part desired, using just a little more pressure than one would employ in examining the eye-ball in a case of suspected glaucoma. If this be done there will be found in various parts of the chest-wall, ignoring the bony and cartilaginous prominences, many spots in which the resistance varies. After a little practice, too, it is unnecessary to use the alternate pressure of the fingers described, and it suffices to pass the fingers over the chest-wall, pressing lightly. Try, in the first way, the first and fourth interspaces of the left side in the para-sternal line (one inch and a half outside the edge of the sternum), and the fourth space will be found to be the harder, from the presence of the heart beneath it. Again, compare the second and the seventh spaces in the right nipple line, and the liver resistance will be felt in the latter space. One of my colleagues objected that the difference in size of the intercostal spaces might account for this, but this error can be removed in a simple manner. Press with the ball of the thumb on the upper part of the thorax on the right side, and again on the part below the nipple, and the difference of resistance will be obvious. So far we have only tested the soft parts, but the cartilages show similar signs, as will be perceived when the resistances of the second and the seventh ribs on the right side be compared. It is astonishing, but nevertheless true, that differences of resistance can be felt through solid bone like the sternum. Test the resistances of the sternum opposite the first and the fourth intercostal spaces, and the resistance of the heart will be felt in the lower spot, though this requires a little care to detect. Practised as described, palpation can define delicately and more accurately than percussion, the areas of the heart, liver, and spleen. We know the

dulness of the normal spleen which percussion ought to define. But the results of such percussion are notoriously uncertain, because of the over-lapping of the stomach and large intestine. By palpation, however, the resistance can be felt in spite of these. This I have found to be particularly valuable in the early diagnosis of enteric fever, which can be simulated so closely by, among other disorders, intestinal influenza. The addition of the discovery of enlargement of the spleen to the other symptoms is important. Again, the kidneys can only be defined by the usual methods of percussion, with difficulty and uncertainty, while by palpation the upper border of the left kidney can be felt at the back a little inside the scapular line at the level of the eleventh rib and its lower border about two or two and a half inches lower. The upper border of the right kidney lies in front of the liver, and therefore cannot be felt from behind, but its lower border can be defined to lie somewhat lower than that of the left kidney. It is a manifest advantage of palpation that it can accurately show the area of the heart, for percussion is here uncertain, and in advanced cases of emphysema gives no reliable results. I have tested the method in every possible way, including experiments on the dead body, and strongly recommend it.

Auscultatory percussion is a method of physical examination which is capable of being of great value, if only it be used with a proper knowledge of its *rationale*. At the present time it is in danger of falling into disrepute. In applying the method to physical examination, the stethoscope is to be placed over a part of an organ, in direct contact with the body wall, the position of which is known, and percussion is applied over some distant part, gradually approaching the stethoscope, until the sharp click is heard. We define only the line of contact of exposed heart and lung, or what is called the superficial cardiac dulness, which has as its only value the determination of a small amount of emphysema. But returning to the examination of the abdomen, the method will define the exact outline of distended large intestine, a matter which may be of importance to the surgeon before operating for intestinal obstruction. The physician can by this method define the outlines of the various lobes of the lungs, and their separating fissures. This is of great importance in determining the locality and the spread of a phthisical lesion. Incipient phthisis of the apex of the lung can only be diagnosed with certainty by combining the results of all methods of examination, and slight shrinking of the apex is an important help. This can be determined at the back of the chest by comparing the heights of the two apices. By percussion this is possible, but only to a highly-trained observer with a very delicate ear. With auscultatory percussion it is

easy to anyone. By the same method the upper line of a pleural effusion is determined without difficulty, just as by palpation. For these reasons auscultatory percussion should not be allowed to pass into disuse.—*Medical Press and Circular*, February 23, 1898.

42.—LARYNGEAL PHTHISIS.

By T. MORRIS MURRAY, M.D., Washington, D.C.

[The following is from Dr. Murray's paper :]

The value of the curette is, I think, generally conceded. The successful treatment of laryngeal phthisis without the aid of the curette is undoubtedly possible in many cases by topical applications, internal medication, and proper climatic surroundings. Among the former nothing as yet known can rank in efficiency with lactic acid. Cadier, however, considers creosote and vaseline of greater service. Langmaid reports good results from a 20 per cent. solution of menthol and oil from iodoform. Newman recommends iodoform, alcohol, and ether in concentrated solution. The employment of parachlorphenol is recommended by Spengler, of St. Petersburg; he states that it has decided germicidal properties, and that its soothing action is more prolonged than even that of cocaine. Hedderich says of this remedy that it is most valuable in relieving dysphagia, and reports two cases of apparent cure. Zinn also uses parachlorphenol in 10 to 20 per cent. of glycerine solution, and states that tuberculous ulcerations can be made to heal with this application alone after several weeks' treatment only. Ruault reports remarkable success from the application of sulphorcinate of phenol (a solution of phenol in sulphorcinate of sodium). Making daily application of a 50 per cent. solution, he treated 500 cases, and states that the infiltrations undergo sclerosis and heal within from four to six weeks without cicatrix. Heryng reports favourable results from the use of this application, denying, however, its efficacy unless preceded by surgical treatment. He uses a 2 per cent. solution of pyoctanin to the curetted surface, and the sulphorcinate of sodium on the eighth or tenth day. The phenol preparations, he thinks, stimulate absorption and the elimination of tuberculous infiltrations and products, and rapidly relieve the dysphagia. S. Solis-Cohen, speaking of the new remedies for the treatment of tuberculous ulceration of the larynx, alludes to the local application of bromoform, formaldehyde, guaiacol, and protoneuclein. Chappell suggests the submucous injection of creosote, preceded by the application of a 10 per cent. solution

of cocaine, giving preference to the oily or alcoholic solutions. (Pure creosote is used when there is extensive tissue necrosis, the injection being made as superficially as possible, one drop at a time, repeated at intervals of five or six days.) Hubbard has also had good results from creosote injections. In his cases tincture of gentian was given internally at the same time.

Spontaneous healing of tuberculous ulcerations of the larynx is reported by Whistler, Grayson, and Solly, in which sedative and antiseptic solutions alone were used. Heryng has seen fourteen such cases out of three thousand observed. Tracheal injections of creosote are recommended by Botey. Very large doses are tolerated in this way, and derangement of the stomach avoided. John A. Thompson advocated this method of administering creosote, saying that where tracheal injections were tolerated the antiseptic action of the remedy would be very speedily shown by the subsidence of the cough, change in character of the expectoration, and decline of fever. The internal administration of creosote has, and I think justly, many advocates. Semon and Conway have reported good results from using large doses. Professor Stoerk, than whom there are few for whose opinion I have greater regard, considers the free use of creosote dangerous in cases of laryngeal or pulmonary phthisis. He thinks that the power of nutrition is often lessened by its employment. Personally I regard it as essential in the treatment of tuberculosis in this climate. I have never seen creosote do harm. Some of my patients have taken twenty-five drops three times a day with only beneficial effect. My rule in administering it is to begin with one minim, adding one minim to each dose every day, with directions that if gastric disturbance is produced they shall go back to the dose which was tolerated without discomfort.

Of the many remedies suggested in the treatment of laryngeal phthisis, the curette and lactic acid must be accorded the first place. Next, I should place the phenol preparations advocated by Spengler, of St. Petersburg, Hedderich, Heryng, Zinn, and Ruault. Laryngotomy, laryngo-fissure, and laryngectomy, it is safe to say, should only be resorted to under most exceptional circumstances. Tracheotomy doubtless has its value, as employed by Gleitsmann and Heryng, for without a free supply of good air nothing can be expected in the treatment either of pulmonary or laryngeal phthisis. In my last paper I reported five cases of laryngeal phthisis successfully treated, one of which is alive and well to-day, six years after the last operation. Since then, though many of my patients have been benefited, in but one have I been able to secure complete cicatrization. I am, however, able to offer one suggestion which I think is new in the treatment of these cases. I have found in enzymol a most

valuable auxiliary to the curette and lactic acid. It is non-irritating, and possesses in a high degree the quality of digesting necrosed tissue. I applied it recently to a large ulcer upon the ventricular band; in twenty-four hours the detritus with which the ulceration was covered had entirely disappeared, leaving a perfectly clean surface, upon the face of which were two nodular projections, apparently tuberculous deposits which had not yet undergone the process of ulceration. My experience with enzymol is too limited to warrant the expression of a positive opinion as to the extent of its value. It has been used most successfully in tuberculous joints, and I shall not be surprised to find that it limits and prevents ulcerations in the larynx when applied by hypodermic injection to the tuberculous deposits.—*New York Medical Journal*, January 1, 1898.

43.—MIXED INFECTION IN LOBAR PNEUMONIA.

By HENRY L. ELSNER, M.D.,

Professor of Medicine in the Syracuse Medical College.

[The following is taken from Dr. Elsner's paper on the Vagaries of Croupous Pneumonia :]

In considering the clinical material, those forms of mixed infection which have been brought to light by the bacteriologic study of the cases cannot be ignored. Under this head are included those cases of tuberculosis which were accompanied by inflammatory processes in the lung caused by the concurrence of two or more infecting agents, one of which was the tubercle bacillus. The fact has been repeatedly demonstrated, experimentally and clinically, that the tubercle bacillus alone, without the presence of other infecting agents, has the power of causing changes in the lung which simulate very closely the various forms of acute and non-tuberculous pneumonia. Clinically, such cases are necessarily differentiated with great difficulty, and require repeated microscopic examination of the sputum (the centrifuge aiding materially) before a positive diagnosis can be made. It is possible to have two pathologic processes in many cases of pulmonary tuberculosis; one leading to the formation of tubercle, the other giving rise to pneumonic infiltration. These cases I have classified as follows:—(1) Cases of acute fibrinous pneumonia, in which the disease attacks an area of lung tissue, the greater part of which is the seat of infiltrating, but latent, tuberculosis. The previous history includes disease in a distant organ, from which pulmonary tuberculosis took its origin, or with which it was coincident. The latent pulmonary deposit, as a rule, did not give rise to

subjective symptoms before the advent of the acute pneumonia. (2) (a) Cases in which there is an acute croupous or catarrhal pneumonia in the immediate vicinity of tuberculous areas, the latter previously recognised, with changes in the infiltrated areas, usually at the apex, the fibrinous disease running its course and terminating by crisis or lysis. This type is not associated with hæmoptysis as a prodromal or initial symptom. (b) Cases of chronic or subacute pulmonary tuberculosis in which acute catarrhal or croupous pneumonia attacks distant areas of the diseased or opposite lung, in which there is no early hæmoptysis, but in which the tuberculous process is actively progressive, with physical signs of beginning or already completed disorganisation. (3) Cases which may be called streptococcus-pneumonia, in which the disease is added either to a latent or an active pulmonary tuberculosis. Hæmoptysis is present, usually during the early stage of the acute exacerbation, or immediately precedes the pneumonia. Here the complication depends largely upon the aspiration of infecting agents from the seat of the original infiltration and ultimate disorganisation. (4) Cases of acute catarrhal, occasionally fibrinous, pneumonia with concurrent infection, when, as a result of lowered vitality, resulting usually from child-bearing, alcoholism, or unfavourable environment, there is in a comparatively short time rapid disorganisation of lung tissue, ultimate cheesy infiltration, with the clinical evidences of coagulation-necrosis, hectic fever, and finally death.

The most unique and at the same time surprising cases of mixed infection which have come to my notice are those in which there has been no suspicion of existing pulmonary tuberculosis antedating the accompanying pneumonia. There were no lung symptoms until the violent outbreak of croupous disease, and in no case which I have seen had the physician been consulted to prescribe for or examine the patient. The general appearance had, in many cases, been so good that during the early days of the acute pneumonia no suspicion of the true state of affairs was entertained, and not until it became plain that the pneumonia was not following a typical course and bacteriologic examinations were made were the facts established which made it positive that a mixed infection was present. In the majority of these cases the added element gave rise to a croupous pneumonia which involved the area of latent disease and the tissues immediately adjacent to it. While there are in many of these cases no subjective complaints or objective symptoms of pulmonary tuberculosis before the appearance of pneumonia, careful inquiry and a thorough search reveal the fact that there have been foci in distant organs, from which pulmonary tuberculosis proceeded, or with

which it was originally closely related. Many of these patients present good family histories, while their personal record strengthens the conclusion that lung tuberculosis may be present, but dormant, awaiting the advent of some depressing agent or added pulmonary disturbance. In other words, lower, by the addition of the second germ, the resisting power of the patient who has an unsuspected tuberculosis, and, as a rule, the result will be tissue disorganisation and consequent progression of the original disease. I know that this conclusion is contrary to the belief of many who attribute to mixed infection little influence on latent tuberculosis, and who prognosticate favourably in cases of this class, but I give it as being in accord with my own clinical experience.—*Medical News, January 8, 1898.*

44.—DELAYED RESOLUTION IN PNEUMONIA, AND ITS TREATMENT.

By ALFRED STENGEL, M.D., Physician to Philadelphia Hospital,
&c.

[The following is taken from Dr. Stengel's paper :]

Pathologically speaking, resolution may fail on account of untoward changes in the diseased area or because of mere delay in the ordinary processes. In the former instances the disease may terminate in abscess or necrosis of the lung, or in interstitial pneumonia (fibroid pneumonia). In the latter instances, after a more or less tedious course complete resolution finally takes place. While I believe it possible that these long delayed cases may be wholly normal in their histological course, I am convinced that in most instances there is at least some interstitial thickening of the septa and connective tissues generally which causes the greater delay in resolution. Termination in fibroid pneumonia of great extent or intensity is very unusual, and it is not my present intention to deal with such cases or with the termination in abscess or gangrene. I desire to limit my remarks entirely to instances in which there has been delay on account of moderate interstitial thickening, or, if such be possible, on account of mere sluggishness in the normal processes. Delay in the resolution, as I have defined it, occurs more frequently in irregular pneumonic conditions, especially in such as are characterised by proliferative cellular processes. Instances of this kind are met with among the pneumonias complicating infectious diseases and Bright's disease, and in secondary pneumonias following embolism. Other cases occur in the aged and in persons reduced greatly in vitality. The causes

of delay in resolution in such cases no doubt vary in different individuals. Massive exudates are probably more difficult to absorb than moderate ones; and in any case weakness of the respiratory movements probably plays a part. Poor circulation and a weakened heart are further contributory conditions. Frank croupous pneumonia of young persons rarely shows any tendency to delay.

Treatment.—In discussing the treatment of delayed resolution it is well to recognise the several causes mentioned above. Various remedies have been suggested and different authors have regarded this or that drug as most efficacious. For my own part I am convinced that no form of medicinal treatment is particularly useful. I have employed tonics, stimulants, arsenic and iodide of potassium and ammonium repeatedly without observing the slightest effect. Stimulants seem to me most rational, but I cannot say that they have ever in my experience done good by themselves. Counter-irritation has, however, been of apparent benefit in every case in which I have made trial of it, and generally in proportion to its severity. Strong mustard poultices have sometimes been useful, but blisters were always more efficacious. I have never used the actual cautery, though I should be tempted to employ it in some cases. The action of counter-irritants might be explained in two ways—they certainly lead to increased respiratory movements for a time, and if repeated may effect a continuous beneficial effect of this kind; in the second place it is not impossible that they effect the circulation in the lungs. Next to counter-irritation I should rank systematic breathing exercises, either in the form of deep inspirations and expirations, or of exercises with bottles after the method suggested by James for the treatment after evacuation of cases of empyema. Adequate breathing would perhaps properly rank as the most important requisite for speedy resolution, but in cases of marked consolidation has disadvantages, such as the tendency to exhaust the patient, and the lack of expansion of the affected side rendering the breathing useless. In cases, however, of moderate consolidation or persistent broncho-vesicular breathing after pneumonia, I should rely upon breathing exercises rather than counter-irritation. In one case under my care, in a young man of about 19 or 20, recovery from the active manifestations of the disease occurred normally, but for some time there was persistent semi-bronchial breathing with some dulness. He was directed to exercise his respiratory muscles twice daily, and soon began to improve. His chest expansion increased greatly, but he did not recover completely for a year. Pleural thickening may have had some part in the behaviour of this case, but I could never assure myself of its existence. [The author then briefly refers to the

production of aseptic abscesses by the injection of turpentine in the treatment of delayed resolution.]

Briefly, my conclusions regarding the treatment of cases of pneumonia with a tendency to delay of resolution are :—(1) In cases of slight tendency to delay of resolution manifested by moderate dulness and persistent broncho-vesicular breathing, systematic breathing exercises are of the greatest importance ; (2) when considerable dulness persists, active counter-irritation should be practised and tonics and stimulants administered ; (3) the production of aseptic abscesses may be useful. The cases in which this has been practised are too few to warrant absolute conclusions, and the treatment is too painful for general application.—*Therapeutic Gazette, February 15, 1898.*

45.—CLINICAL FORMS OF PHTHISIS.

By M. VERGÉLY.

[In the fourth Medical Congr ss, 1898, held in Nancy, M. Verg ly read a paper on this subject.]

M. Verg ly said that pulmonary tuberculosis could be acute, sub-acute, or chronic. Acute tuberculosis comprised three forms : the generalised form in which the microbe invaded all the serous membranes, all the viscerae, constituting bacillemia. Sometimes the tuberculous infection affected the clinical symptoms of a gastro-intestinal infectious malady, and more particularly the different normal forms of typhoid fever. The confusion was so easy that it was necessary, in order to arrive at a differential diagnosis, to know all the dissemblances and all the analogies that those two maladies could present one with the other, but the sero-diagnostic analysis was sufficient to clear up all doubt. The thoracic form could be suffocating, bronchitic, broncho-pneumonic, pleural, or caseous. The first presented the greatest difficulties. Sometimes it commenced in an epidemical way ; at other times one would believe in an attack of acute asthma, capillary bronchitis, or acute dilatation of the right heart ; the evolution and the persistence, as well as the intensity of the dyspnoea, were the best differential signs. The bronchitic and broncho-pneumonic varieties answered to the catarrhal type of Lendeh and Empis, and comprised the varieties designated under the names of spleno-pneumonic tuberculosis, capillary bronchitis, and acute pleurisy. Under the term of acute tuberculosis of the pleural form should be ranged all the clinical modalities where the pleural symptoms dominated. Caseous pneumonia constituted the last variety, which, according to the experience of Straus, Gameleia, Frankel, &c., was essentially a processus of tuberculous evolution of intra-alveolar origin.

This variety, the violence and the rapidity of which were due to the virulence of the bacillus, was frequently very difficult to diagnose from simple or complicated pneumonia in the aged. The prognosis was not, however, always fatal, for, as Graucher proved, this form passed sometimes to the chronic state. Sub-acute pulmonary tuberculosis formed the transition between the acute and chronic types. In acute miliary tuberculosis the infectious symptoms dominate; in rapid phthisis it was the consumptive. The lesions of galloping consumption were complex; the rapid extension, the softening, and the abundant suppuration of these tubercles were due to microbial associations. That form attacked children and adults, but seldom or never aged persons, and the cause was generally to be found in everything that diminished the resistance of the organism.

Chronic pulmonary phthisis comprised several forms, the first or common form being the most frequent. "Nothing is more variable, nothing more capricious in its evolution than chronic phthisis," said Graucher and Hutinel, the *début* was sometimes simple, uniform, and characteristic; it could conceal itself under the appearance of functional troubles, dyspepsia, anæmia, which turned away the attention from the lungs; it could be so insidious as to escape detection by experienced physicians, yet there existed certain symptoms which were given as indicators of pulmonary phthisis. Chronic tuberculosis could be arrested in the first period by the formation of a zone of sclerosis, but only for a period more or less prolonged, and finally the malady pursued its work of destruction. In general, the lesions of chronic tuberculosis advanced insidiously to the period of softening; the formation of vomicæ was announced by new local signs and special functional troubles. The general condition of the patient suffered by reason of progressive hecticcy, and death supervened by the evolution of gradual consumption. Sometimes, however, the patients maintained a good general condition, in spite of the presence of vomicæ, but more or less rapidly they succumbed to a series of complications—pleuro-pulmonary, gastio-hepatic lesions, cardio-vascular disturbances or genito-urinary affections.

Secondary Forms.—Pulmonary tuberculosis was frequently secondary to primary local tuberculosis, which modify its evolution in a remarkable manner. It was difficult to pronounce on the subject of the secondary tuberculosis grafted on an organism already attacked by some grave affection. It was admitted, however, that the association of syphilis and tuberculosis was of exceptional gravity. The grippe, according to Prof. Grasset, aggravated generally pulmonary tuberculosis. It is generally admitted to-day that alcohol favours the development of tuberculosis. Contrary opinions reigned on the influence of pregnancy

on tuberculosis, but the present idea was that that condition aggravated the affection. Confinement and lactation exercised also an evil influence.

M. Vergély concluded his paper by a short notice of infantile and senile tuberculosis. Although chronic ulcerous pulmonary tuberculosis in the child did not differ much from that of the adult, yet it presented some particular characters, either in its mode of *début*, following generally some intercurrent pulmonary affection, or an attack of typhoid fever. Hæmoptysis was rarely seen in the first stage, while expectoration was never abundant. Generally the child suffering from phthisis presented a healthy appearance for a long time. The affection coincided almost always with tuberculosis of the broncho-tracheal glands, which aggravated the malady.—From Report in the *Medical Press and Circular*, April 20, 1898.

46.—TREATMENT OF PHTHISIS.

By Dr. PAQUIN.

[The following is taken from the portion of Dr. Paquin's article dealing with the special treatment. The statement in regard to the serum treatment appears moderate enough, and based on sound principles. The obstacles in obtaining a real serum treatment of tuberculosis lie in the difficulty of immunising animals against tuberculosis.—E.F.T.]

First in line is the specific treatment; that form of therapeutics which aims to set interference in the way of microbic development. It may consist of prophylactic measures of the vaccinating order, or treatment by the action of immunising and curative principles, based on the laws underlying immunity and recovery from infections. As vaccinating agents, the various forms of tuberculin may be used. Being poisonous principles of the germ of the disease, their effect is limited to the production of a mild kind of tolerance of the consumption germ, by the system of the being inoculated. Consequently, it is only in the very earliest moment of suspicion of tuberculosis that one may expect a cure by the use of such a preparation. Anti-tubercle serum, on the contrary, being the product with which nature herself often cures tuberculosis without the guidance of the human hand, may be used in all stages with perfect propriety and safety and with the assurance of at least having done one's duty in the application of medicine. As said before, it is in the earliest stages that the disease can be more readily arrested, but being an antitoxin it is applicable in all stages and under all circumstances, except the very rare exceptions in which heart disease or other idiosyncrasies exist, which

preclude the hypodermic injection of albuminoids or salty preparations, and sometimes even of water. In cases of pure tuberculosis, anti-tubercle serum may be administered hypodermically, in doses ranging from five to six ms. daily, thirty being the average maximum dose. The place of injection when they are to be continued for some time, should be a locality where a heavy fold of the skin can be most easily lifted and the hypodermic needle plunged most deeply into the connecting tissue. I find the area in the back, towards the side, most suitable.

The untoward effects of serum injections are very uncommon, particularly if one is careful not to push injections too rapidly and in too large doses from the first. Occasionally, a local swelling occurs which may be reduced by the ordinary methods for such conditions. If precaution has been taken to disinfect the skin thoroughly at the point of injection, by washing the locality and then rubbing it with alcohol or, preferably, formaldehyde, there is little chance of producing a swelling due to microbes, providing that the syringe and needle be thoroughly clean and free from germs of any kind. The serum itself is absolutely sterile. No one need fear infectious injury from that source, unless by serious carelessness germs are allowed to contaminate it. Infrequently symptoms of arthritis develop, which resemble very much the ordinary symptoms of rheumatism and which subside after suspending injections for a few days, and under the treatment for rheumatism. The occurrence of urticaria and other skin eruptions is not uncommon, and usually avoidable by progressive doses.

The most striking, peculiar, and perhaps most alarming of all the untoward symptoms of sero-therapy in any disease is the strange and sudden interference with the circulation, manifested by dizziness, almost immediate cyanosis, and sometimes, more or less serious pain along the spinal cord, from the point of injection downward, including the nerve courses of the lower limbs, occasionally producing nausea and pain in the stomach. Sometimes these manifestations are followed by rigor. Fortunately, these results are exceedingly rare and never have proved fatal. Over one hundred thousand injections of serum anti-tubercle (Paquin) are recorded without a serious result. In such cases, I usually discontinue hypodermic medication and use instead rectal injections with special syringe, which gives as good results in many cases, although it requires usually a larger dose. As treatment of these effects, I prescribe nitrate of strychnia, hypodermically. In mixed infections, particularly where the germs of pus predominate and where the expectoration is largely made up of pus and broken down tissue, I use the anti-streptococcus serum as accessory treatment. I produce

this serum under the same principle that underlies the production of all other antitoxins, namely, by the immunisation of the horse, by saturating injections of the toxins and germ substance of the streptococcus. This is done by the method known as Marmorek's, somewhat improved. This serum and the anti-tubercle serum may be mixed or given alternately on alternate days. As to internal medication, it must depend wholly on the existing conditions. In anæmia and other conditions suggesting feebleness of the nervous system and circulation, proper reconstructive blood tonics and nerve stimulants, such as peptomangan and nitrate of strychnia, are desirable. As to cough, unless it is very aggravating and prevents sleep to a serious degree, I never use opiates. I usually administer, when absolutely needed, codein and terpinhydrate. It has been suggested that alteratives be used to assist in arresting the breaking down of tissue and glandular suppuration, &c., as is done in the treatment of syphilis. For that purpose, I have found a solution of iodine properly mixed with glycerine and some of the halogen salts, very beneficial. Iodine is credited, indeed, with having cured tuberculosis. The iodides are not good. They seem to destroy red blood corpuscles. As to inhalations, they should never be of an irritant character, and, in fact, one should be very careful in their administration. In the early stages of tuberculosis most inhalations produce an irritation of the bronchi which is followed by a secretion that offers a good nidus for the development of germs. The inhaling ingredients containing the essence of pine needles, benzoin, and such essences as are not irritant and are of a balsamic character, are most suitable. In cases with cavities, inhalations containing formaldehyde are useful as disinfectants.

In closing, I wish to draw your attention to an exceedingly important point. It is, that almost every physician expects too much of sero-therapy in tuberculosis. I have never made extravagant claims for it. It can not perform miracles, and should be used early. It is neither just to the patient nor to the treatment to apply it as a last resort, when everything else has failed and the condition of the patient is such that doom stares him in the face.—*Journal of the American Medical Association, February 5, 1898.*

47.—PNEUMO-THORAX.

Dr. BUSHBY, Liverpool.

Dr. Bushby read the following notes, before the Liverpool Medico-Chirurgical Society, of several cases of pneumo-thorax recently under his care. [The details of the cases have been

omitted here.] During the past twelve months five cases complicated with pneumo-thorax have come under my notice, and as some of them have presented points which have been of great interest to myself, I have thought them worthy of being brought before the notice of this society. Perhaps it will be better if, before relating the cases, I mention briefly the points which have chiefly attracted my attention, and which I have endeavoured to emphasise in my report. The first is, that the detection of the condition depends chiefly upon a thorough examination of the chest being made, as the causes are numerous and widely different in their nature, and the history given by the patient is often misleading, and not calculated to arouse suspicion of the affection. The second is, that too great importance should not be attached to the detection of pathognomonic signs; by these I mean the succession splash, *bruit d'airain*, metallic tinkling and echo. Those are all very well if they are present, but they are very apt not to be. The leading signs in diagnosis are, I think, contained in the following quotation from Dr. Fagge's article on the subject:—"In general, pneumo-thorax is to be suspected whenever, over a large part of the chest, but on one side only, marked deficiency of vesicular murmur is associated with tympanitic resonance on percussion." The last point arises in connection with my fifth case, and consists in the question as to the advisability of puncturing the chest. The interesting points in the first case I think are, first, that, although in a tubercular subject, the pneumo-thorax was recovered from; second, that no pathognomonic sounds, such as splashing or the *bruit d'airain*, were ever present. In the second case the patient made a perfect recovery. As there was no evidence of tubercle in this case, I attribute the pneumo-thorax to the bursting of an emphysematous bleb. It is also interesting because no fluid was poured out, so there was no splashing or tinkling, and also there was no *bruit d'airain*. The third case, besides being a thorough example of hydro-pneumo-thorax, is, I think, of some importance, as showing what a misleading history such cases may give, and that a routine examination of the chest soon takes one off the wrong scent and puts you on the right. In the fourth case I came to the conclusion that sloughing had taken place in a pneumonia patch on the surface of the lung, and in consequence pyo-pneumo-thorax had arisen. I did not see that any decided benefit was likely to accrue from aspiration, and did not care to advise an incision being made, considering the patient's moribund state, especially as Dr. Dickinson was momentarily expected. Dr. Dickinson arrived shortly afterwards, and a puncture was made in the chest, and a small quantity of intensely foetid fluid withdrawn. This trivial proceeding, however, increased the collapse to such an alarming

degree that opening the chest was out of the question, and the patient very shortly afterwards died. At the post-mortem examination, while handling a large gangrenous patch on the surface of the lung something hard was felt, and on being picked out and washed, was found to be the greater portion of the outside covering of a grain of wheat. This evidently was what the patient had swallowed the wrong way, and was the cause of the pneumonia and subsequent gangrene. This case shows, I think, how very divergent in their characters the causes of pneumo-thorax may be, and how unexpectedly they may come before you. At the necropsy on the fifth case the upper lobe had tubercular nodules scattered through it, and on the outer side there was discovered an aperture about the size of a crow-quill, leading into a small cavity. This aperture was quite patent, and there was no evidence of any lymph or other reparative materials around it. The points of interest about this case are, to me, the absence of the *bruit d'airain*; that although the condition was in existence for over eight days, no liquid was poured out, and consequently there was no splashing; and finally, whether we should have done better for the patient if we had punctured his chest with a trochar and let out some of the distending air. I had never before met with a case in which the advisability of the operation was prominently brought up. On first seeing the patient I was extremely perplexed about it, but subsequently the relief the patient experienced from the morphine put me off; but on now reviewing the case, it is evident the cardinal symptoms did not improve—I mean the distension of the right side of the chest and the displacement of the heart—although it is true the increasing audibility of the breath sounds seemed to show that the lung was distending. At first I postponed puncturing, as my reasoning took the following lines, that when a rupture takes place on the surface of the lung, air accumulates in the pleural cavity, the lung collapses, and the edges of the rupture come together and are covered over with lymph, which subsequently organises and becomes firm; consequently, when the air begins to be absorbed the mended part may have gained sufficient strength to stand the strain of gradual distension. But if the chest is punctured within a day or so of the occurrence of the rupture, it is only to be expected, if any quantity of air is let out, that the repair will not be sufficiently firm to stand sudden distension, and will give way, giving rise to a second shock from collapse of lung, distension of chest, and displacement of the various surrounding organs. In this case, if the aperture we found at the post-mortem examination was the original one, I do not see that puncturing could have afforded anything but the most passing relief, as it was quite patent, and as large as any trocar that was

likely to have been used, so that air would have passed through the lung into the pleural cavity almost as quickly as it escaped through the trocar.

In briefly summing up these cases, it will be seen three were due to tubercular disease of the lungs. Two of these died, and one recovered as far as the pneumo-thorax was concerned. One was presumably due to the rupture of an emphysematous bulla, and recovered without effusion of liquid. And one was due to gangrene of the lung. In two of the cases liquid was present, and in these pathognomonic signs were distinct. In the remainder no liquid was present, and in these pathognomonic signs were absent.—*The Liverpool Medico-Chirurgical Journal*, January, 1898.

48.—CHRONIC MEDIASTINITIS.

By G. A. SUTHERLAND, M.D. Edin., M.R.C.P. Lond., Physician to the Paddington Green Children's Hospital.

[Dr. Sutherland reports a case in a boy eight years old, and then makes the following remarks :]

On the boy's admission the ascites was the most prominent sign and naturally led us to think of the three great causes of that condition—cardiac, renal, and hepatic. Although the heart-sounds were weak there was no evidence of dilatation or hypertrophy or valvular disease. Further, although enlargement of the liver with ascites may be a prominent sign of failing power or failing compensation in the heart, we should expect a more generalised œdema and more marked cardiac changes than were present in this case. As regards primary kidney disease, the normal condition of the urine and the absence of general dropsy and other renal symptoms led us to exclude this possibility. In the subsequent progress of the case the temporary albuminuria and oliguria could be explained by the pressure of the ascitic fluid. A more satisfactory diagnosis seemed to be indicated by the association of an enlarged liver with ascites, and for a time we regarded the case as one of hepatic cirrhosis with impediment to the portal circulation. This, however, was entirely a provisional diagnosis, made rather on account of the absence of positive signs of any other lesion. There was no history of alcoholism, which is, of course, the commonest cause of cirrhosis, or of syphilis. As time went on there was no further evidence obtained of hepatic cirrhosis—that is to say, the spleen was not enlarging, the appetite was good, there were no symptoms of intestinal catarrh, or congestion, and there was no progressive ill-health. Amongst the other abdominal conditions which presented themselves in

considering the possible diagnoses was that of chronic peritonitis, which is not unfrequently accompanied by considerable enlargement of the liver. Against this the fluid was large in amount and free in the peritoneal cavity, whereas in peritonitis it is usually small in amount and shut off by adhesions. That there is now a certain amount of chronic peritonitis I believe to be extremely probable, but I regard it as the result and not the cause of the ascites. A diagnosis, then, either of hepatic cirrhosis or of chronic peritonitis has not been adhered to because (1) the symptoms in the abdomen were stationary—that is to say, both the ascites and the condition of the liver are practically the same to-day as they were six months ago ; (2) the abdominal symptoms appeared passive rather than active, there being an absence of all pain, tenderness, or intestinal disturbance ; and (3) our attention was directed to changes in another part of the body.

Let me ask you to assume for a moment that there has been at some previous period inflammation of the lymphatic glands in the mediastinum and that this has led to enlargement and matting together of these glands with chronic inflammation extending into the surrounding structures. In the earlier stages we cannot make out these changes by direct examination, we can only form an opinion from the results of the pressure on air passages, blood-vessels, and nerves. I suggest to you here that there has been pressure on the superior vena cava, as manifested by the prominent veins in the arms and neck, the puffiness of the face, and the duskiness in the cheeks, lips, and tongue. Further, I suggest that there has been pressure on the inferior vena cava in the chest, as evidenced by the enlarged liver and ascites and pressure on the pulmonary veins, as evidenced by the attacks of pulmonary œdema, dyspnœa, and catarrh. Again, I suggest that there has been pressure on the bronchi or on the nerves supplying the bronchi, as evidenced by the paroxysmal cough which has been so persistent. I also suggest that there has been an extension of the chronic inflammation to the pleura, as evidenced by the presence of coarse pleuritic friction appearing first at the sternum and extending outwards on both sides. Finally, I suggest that there has been a steady increase in the size of this mediastinal growth, as evidenced now by dulness on percussion over and around the sternum and the loud conduction through this mass of the sounds from the bronchi lying beneath it. The assumption I have made as to a mediastinal lesion is the only one which seems to explain the various phenomena present in this case.

I do not ask you to accept that conclusion, but to examine and form your own opinion, for in this affection there are no certain signs by means of which we can reach a positive diagnosis. The

signs in one case will differ from those in another, there being constant variation according to the incidence of pressure, the direction in which the inflammation spreads, and the size of the new growth. Besides chronic inflammation we have to keep in view the possibility of mediastinal tumour, simple or malignant, although the history of the case rather excludes the latter. It is seldom possible to make a definite diagnosis between a mediastinal tumour and chronic mediastinitis during the life of the patient. We have assumed that the starting point of the disease was in the glands, because that is the most common site of origin. In other cases the affection may begin in the pericardium—when it is known as mediastino-pericarditis—or in the pleura or in the lung. The condition becomes one of general inflammatory thickening of the mediastinal tissues, which in time becomes fibrous or semi-cartilaginous. The disease runs a chronic course but a progressive one, and death may ensue from pressure on a vital structure or from some complication, pneumonia, &c. The treatment is general and symptomatic. In this case the ascites has frequently had to be relieved by Southey's tubes. Whenever there is actual discomfort from abdominal distension the fluid is removed and the benefit is always marked. In the early stages the boy had much more energetic treatment, and purgatives, diuretics, cardiac stimulants, and mercurial inunction were employed without producing the slightest effect as regards the ascites. Similarly—and this is an important point in connection with the diagnosis—the paroxysmal cough was not at all affected by local treatment and only very slightly by full doses of nervine sedatives, while the pleurisy is so irresponsive to treatment that we now leave it alone. He is at present passing a quiet, restful existence on a full nourishing diet, with plenty of cod-liver oil and iron.—*The Lancet*, January 8, 1898.

DISEASES OF THE ORGANS OF DIGESTION.

49.—ON “DRY MOUTH,” OR XEROSTOMIA.

By THOMAS HARRIS, M.D. Lond., F.R.C.P. Lond., Physician to the Manchester Royal Infirmary, &c.

[The case in a woman, aged 30, and other parts of Dr. Harris's paper, have had to be omitted here.]

The condition of “dry mouth” must be an extremely rare disease, as so very few cases have been recorded. The features of the malady are marked, and cause so much discomfort to the

patient that the cases would be likely to attract the attention of any observant practitioner, and the importance also of such a condition, as bearing upon the relation of the nervous system not only to the secretion of the glands of the mouth, but also to secreting organs in other parts of the body, is one which renders it desirable that cases of xerostomia should be recorded. In one recorded case we have, in addition to the arrest of the buccal and salivary secretions, a permanent enlargement of both parotid glands, a feature which has not usually been found in cases of xerostomia. In this case we have not to do with a relapsing parotitis, but with a permanent enlargement of the parotids. Whether the enlargement is inflammatory or due to simple retention of secretion in the gland cannot be definitely stated, but the former is much more probable. This association of enlargement of the parotids with xerostomia is extremely interesting, but the explanation of it is not at first sight very evident. The most probable explanation of the association of enlargement of the parotid glands with xerostomia is that both are due to a common cause and are not otherwise connected. It seems most probable that xerostomia is the result of a functional derangement of a nervous system, and that the same nervous affection produces in some instances a relapsing parotitis, or a more permanent enlargement of the parotid glands. It is also obscure why the parotids and not the other salivary glands should be enlarged in some of these cases. The number of recorded cases where there has been an affection of the parotids associated with xerostomia, so far as I know, is only two in addition to the one already mentioned, a number far too few to allow of any conclusions being drawn. The association of the parotid with other diseases does, however, seem to be a much more intimate one than the association of the other salivary glands with the same diseases. The cases recorded by Mr. Stephen Paget of parotitis, both suppurative and non-suppurative, following injuries and diseases within the pelvis or abdomen, clearly show that there is a connection between such injuries and diseases and the parotid glands, and the same connection does not appear to exist between the same diseases or injuries and the submaxillary or sublingual glands. It is impossible not to agree with the author that the most probable explanation of the cases of parotitis following injuries or diseases within the abdomen or pelvis is that it is due in some way to reflex nervous action.

In the above-mentioned recorded case no disease of any organs can be found which, by any reflex action, might account for the xerostomia or for the enlargement of the parotids. The woman was, however, an extremely nervous one, and the case appears to support the view that xerostomia is to be regarded as

the result of a functional derangement of the nervous system. It is easy to understand the increase or diminution of the secretion of any gland under the influence of the nervous system, but it is not so clear how a functional derangement of the nervous system produces an enlargement of the parotids, as in this case.

It is noteworthy that nearly all the cases of xerostomia up to the present time recorded have occurred in people advanced in years, and, with two exceptions, all in the female sex. In the majority of cases the condition, at the time they were recorded, had existed many years, and, with the exception of pilocarpine, nothing had given much relief, and sometimes that had failed in this respect entirely.—*American Journal of Medical Science*, March, 1898.

50. — THE INSPECTION OF THE ŒSOPHAGUS AND THE CARDIA.

By MAX EINHORN, M.D.

[After referring to the researches of Störk, Waldenburg, Mackenzie, Mikulicz, von Hacker, and Rosenheim, the author continues as follows :]

In regard to the modifications of the œsophagoscope, various investigators have tried to construct a metallic tube which would be flexible while it was inserted into the œsophagus, but which could be straightened afterward by some arrangement. The advantage of such an apparatus would consist in its being more easily inserted. I myself have also worked considerably in this line, and have made several attempts during the past year to construct a suitable apparatus. J. Reynders & Co. have made, under my direction, several flexible œsophagoscopes which can be straightened after they are inserted. I must state, however, that they are not so serviceable as the ordinary stiff œsophagoscope, as the straightening is frequently not perfect. One is a spiral instrument which becomes straight on the insertion of a stiff obturator ; there is another which by means of wires and a screw arrangement can be made flexible or stiff at will. Kelling, to whom, next to Rosenheim, much credit is also due with regard to œsophagoscopy, has just devised a new segmented œsophagoscope which can be straightened. Probably Kelling's instrument will work better than the two instruments of mine constructed by Reynders. I on my part have abandoned further attempts in this direction, as it is not in reality difficult to introduce a stiff tube into the œsophagus. Suppose the flexible tube is used, it must be stiffened before looking through

it ; if the œsophagus occupies such a position that a stiff tube can not be pushed down, even the flexible instrument can not then be straightened without eventually causing some lesion. On this account I do not deem all these modifications essential, and believe that we can efficiently make use of the original instrument of Mikulicz and von Hacker.

It has been suggested by Rosenheim and von Hacker to cocainise the pharynx if necessary—Kelling employs even chloroform-ether narcosis in many cases—and to examine the patient in a recumbent posture. In my opinion this posture does not much facilitate the procedure. I usually examine the patient with the œsophagoscope in a sitting posture, the head reclining considerably backward. In exceptional instances chloroform-ether narcosis will be necessary. In most cases even the cocainisation of the pharynx will not be essential ; I, at least, have been able to do without it. I do not find œsophagoscopy difficult of execution. In almost all cases in which I have attempted to introduce the œsophagoscope I have succeeded. It is self-evident, however, that we may meet now and again with patients who are unwilling to submit to an œsophagoscopical examination. With regard to the value of œsophagoscopy, I must say that it is diagnostically and therapeutically of great importance. Notwithstanding my meagre experience in this field, I have already met with cases in which the diagnosis of a neoplasm could be more easily made with the œsophagoscope. Thus I have recently examined a patient with dysphagia in whom the œsophagoscope revealed several spots at the cardia which were dark red and intermingled with white tissue. This at once gave the impression of being foreign, of a tissue that ought not to be there. Normally the cardia appears somewhat reddish, while the œsophagus presents a whitish-gray hue. In another case in which there was likewise the suspicion of a cancer of the cardia, the latter did not show anything abnormal. Instead of my seeing, however, above the cardia the œsophageal wall, there appeared here suddenly an empty space. This seemed to point to a dilatation of the œsophagus without a stricture. This diagnosis could also have been arrived at from a study of other symptoms. At any rate a cancer of the cardia could be positively excluded by the œsophagoscopical examination.

I fully coincide with the following remarks of von Hacker with regard to œsophagoscopy :—“ The experience at hand with regard to the utilisation of œsophagoscopy may still be expanded and the method improved. By means of œsophagoscopy our knowledge of the appearance and the physiological condition of the inner coat of the œsophagus, which until recently was invisible to the eye, has been enlarged, and our views on the

morbid conditions of this organ and their course have been materially advanced. . . . It is certain that the œsophagoscope is already of aid in the early recognition or exclusion of cancer of the œsophagus or of the cardia of the stomach. It aids us also in discovering foreign bodies in the healthy as well as the diseased gullet and in quickly and delicately removing such bodies without a bloody operation. Thus it is diagnostically and therapeutically of the highest importance."

In conclusion, let me emphasise the statement that œsophagoscopy will undoubtedly prove of great value in diagnosis as well as therapeutics, and I firmly believe that this method will become popular. It may, perhaps, still take some time, but there is no doubt that the œsophagoscope will have a lasting place in medicine.—*New York Medical Journal*, December 11, 1897.

51.—CHEMISTRY OF DIGESTION.

[The following, taken from a leading article in the *Boston Medical and Surgical Journal*, April 7, 1898, has a very direct bearing on dietetic treatment:]

The investigations upon the chemistry of the functions of digestion have opened the way to a scientific method of diagnosis and treatment of the disorders of the digestive tract. Experimental research has revealed the character of the secretions which take part in the process of digestion, and the nature of the action of these secretions upon the ingested food. In regard to the gastric functions we possess practical methods by which we can ascertain the character and quantity of the secretions and the vigour of the digestive function in a given individual. We have, then, in a given case to ascertain the condition of the secretions and of the digestive function by the application of our clinical methods, to determine the normality or abnormality of the condition found by a comparison with the results of investigation on the normal individual, and if abnormality exist to rectify it by treatment. If an abnormality in the amount of some particular constituent of the digestive secretion be determined, we may treat it either by adapting our diet to the existing condition of this secretion, or by supplying the constituent in artificial form, or by stimulating the natural secretion. To aid us in these methods of treatment, we possess tables of the digestibility of the different food substances in the gastric juice, and in the acid constituent of this juice, based upon exhaustive investigations. If the analysis of the gastric contents show a diminution in digestive activity, the diet is made up of those articles which the reference tables record as easily

digestible. If a diminution in the hydrochloric acid of the gastric secretion be present, that food is chosen which requires for digestion a less quantity of HCl, and in addition free hydrochloric acid given with the food. If an excess of acid be present, foods which combine with large amounts of HCl are given, and, if desired, alkalies given to neutralise the acid. A most important result of these investigations of the chemistry of the gastric functions is the conclusion which has been attained that the vital factor of the gastric digestive function is the motility. Experimental investigation and clinical experience both tend to prove that the nutritional disorder necessarily consequent upon an abnormality of the gastric function is, as a rule, in proportion to the extent to which this abnormality affects or is associated with a disorder of the motility of the stomach. Investigation has determined that whether the food reach the intestine digested or unchanged, that is, whether the function of gastric digestion be active or not, a sufficient quantity can be digested and assimilated to support the needs of the organism; also, that practically the total absorption of the food products takes place in the intestine. Whether, therefore, the food be acted upon in the stomach or not, the absolutely essential point is that it shall reach the intestine, and in proper time; and this function rests with the motor power of the stomach.

The knowledge of the chemistry of intestinal digestion in health and disease, though less intimate than of the gastric digestion, has been much advanced as a result of the investigations of recent years. It is now known that the digestion of fats is dependent upon the proper secretion of bile and of pancreatic juice. In the absence of bile, but one-fifth of the fats ingested in a normal diet are absorbed. If the pancreatic secretion be excluded from the intestine, one-third of the fat fails of absorption. The bearing of this knowledge upon the treatment of conditions in which these secretions are lacking in the intestine is clear. The neutral fats must be diminished in the diet. And, in addition, the failing biliary secretion may be to some extent supplied artificially. In connection with this subject of the digestion of fat, recent investigations have tended to prove that a large proportion of the fat of the food may be absorbed in the form of fatty acids in solution in the bile acids. Following this indication, therefore, it is reasonable, where the pancreatic secretion with its fat-splitting ferment is absent, to obtain our fat radicle in the diet as fatty acids instead of as neutral fats. Direct indications for the treatment of intestinal disorders have come from investigations of the intestinal digestion in patients with fistulæ of the lower ileum or cæcum. These investigations show that in a diet of normal calories value, even where the proportion of fat or carbohydrate is high,

these latter food elements are digested and absorbed in practically their total quantity before reaching the large intestine, while the absorption of proteids up to this point amounts to but 80 to 90 per cent. of the total absorption. These results suggest the use of a diet consisting largely of fats and carbohydrates in conditions of inflammation of the large intestines.

52.—THE DIET OF DYSPEPTICS.

By MAX EINHORN, M.D., New York.

[The following is taken from Dr. Max Einhorn's article :]

The majority of dyspeptics, or of patients suffering from chronic digestive disorders, are affected with functional or nervous derangements. Most of these patients suffer either from loss of appetite or from gastralgia, sometimes from both, and hence take inappropriate and insufficient nourishment. Thus some live on small quantities of peptonized milk; others on artificial meat extracts (beef juice, liquid peptonoids, &c.). If these dyspeptics adhere strictly to this rigorous diet, they almost always depreciate more and more in health. A marked fear of food is distinctly observed in all these cases. This symptom I would like to designate as "sitophobia" (fear of food). If the patients give in to this sitophobia—which frequently occurs—the dyspeptic symptoms increase more and more, even after the ingestion of small quantities of liquid and pre-digested foods. Soon varied symptoms of inanition manifest themselves, such as dryness in the throat, headache and dizziness, a feeling of decided weakness, intense anæmia, sometimes even pernicious anæmia. Should we therefore be astonished if such patients, addicted to this wrong course of living, gradually waste away and finally succumb? Either inanition itself, or complications arising in consequence of malnutrition, may easily bring on a fatal issue. As a whole, it is rather surprising how long these patients can live in spite of insufficient nutrition. The number of such emaciated dyspeptics is not small, and every practitioner meets with a few of them every year.

I will now present a few points by means of which these cases may be recognised. Generally speaking, the term dyspeptic signifies one who suffers from a chronic disorder of his digestive organs, without having, however, any organic affection. We will have to determine, first, the presence of some protracted ailment (for one or several years); second, the absence of any organic disease (ulcer, stenosis) of the stomach or intestines. An examination of the gastric contents may be omitted in these cases, although the knowledge of the chemical conditions of the

gastric juice may sometimes be useful with regard to the treatment. How shall we treat such dyspeptics? Medicaments are not of much value, or play only a subordinate part. The main factor lies in proper nourishment. These patients, who have abstained from most kinds of food for years, must now learn anew to eat. Their stomach and intestines very quickly adapt themselves to this new condition. First and above all, it is of importance to increase the quantity of nourishment; second, to provide a sufficient variety of foods. An ample but too one-sided diet (as a purely milk diet, or hot water and beef) is not suitable for a long period of time, for under this regimen there may be a partial lack of certain substances necessary for the welfare of the organism, and thus may be exerted a deleterious action upon the economy.

In order to improve nutrition, two articles of food, which hitherto have been often avoided by laymen as well as physicians, play an important part. I mean bread and butter. In my previous paper I have already hinted at this topic; I now take the liberty of again discussing it. Bread forms one-third of the total amount of ingested food in health, and, besides having nutritive value, serves the purpose of increasing the flow of saliva during its mastication. It also creates an appetite for other food. Butter not only improves the taste of various kinds of food, but is also in itself a nutriment of the greatest importance. The great number of calories which butter contains (one hundred grams give eight hundred and thirty-seven heat units, while the same amount of bread develops about two hundred and seventeen) shows this in the clearest manner. Another advantage which butter presents is that its volume is only about one-third that of bread. A patient taking about one-quarter of a pound of butter a day receives therewith more than one-half of the heat units required. This quantity of butter is, according to my experience, well borne by most of the patients. In two cases, taken at random, from a large number of similar character, the main symptoms consisted principally of a deficient nutrition. By improving the latter the patients got well.

As nutrition plays the principal part in the treatment of these patients, it will not be amiss to give a few hints with regard to its management. To begin with, it does not appear advisable to permit patients who have abstained for a long while from the coarser varieties of food everything at once. This abrupt change may at times be the cause of various unpleasant symptoms; therefore it should be accomplished gradually. At first give, besides milk, gruels, and thickened soups, eggs beaten up in milk, &c. A few days later begin to add to this bill of fare zwieback or crackers with butter; then permit meat, the white of chicken and well-scraped beef; next, mashed potatoes; still later give

wheaten bread, baked or boiled potatoes, soft-boiled or scrambled eggs, oysters; at last allow vegetables and fruits. An essential point with regard to nutrition is punctuality in the taking of meals. In most of these cases, in which a gain of weight is of great importance, frequent meals (five or six daily) will be advisable. Although it does not appear advantageous to prescribe for the patient the quantities of the various foods in exact weight (grams or ounces)—as by so doing they are too easily reminded of their ability or inability to digest this or that quantity and not more—it is nevertheless of value to mention approximate figures by which they may be guided or below which they shall not go. Thus, for example, they may be told to eat as much as their neighbours at table, or that they shall take ten ounces of milk at this or that meal; or, as I frequently advise, that they shall consume one quarter of a pound of butter a day. Emphasise those points which appear to be the most important, and leave the patient great liberty in all other particulars. We must strive to familiarise the patient with the idea that ample nourishment will strengthen his organs (including the stomach and intestines), and we must always endeavour to dispel the fear of food with which he is harassed.

For patients who are greatly run down and are confined to bed a nurse is advisable, who shall see that the physician's orders (with regard to food) are promptly carried out. Massage may certainly be used on and off as an adjuvant. For patients who are up and about, a nurse is unnecessary. In the latter instance it is important to see that the patient's time is properly occupied; by that I mean to say that the patients should lead a rational mode of living, and should work neither too much nor too little. With some patients (wealthy people having no vocation) we must try to give them something to do; while in the case of merchants whose business strain is too great, lawyers, and physicians, we should advise that sufficient leisure be taken. The points just mentioned serve in a high degree to render possible a healthy nutrition, for only a rational mode of living gives sufficient appetite for abundant food. In cases in which the condition of the gastric juice is known there are still other special rules with regard to diet; for, as is well known to you, we should give abundant quantities of meat in hyperchlorhydria, while in hypochlorhydria and achylia gastrica the starchy substances (and vegetable food) should predominate. The above suggestions, however, play the principal part in the treatment, and good results may be obtained often enough without analysing the gastric contents. It is more important to take care that patients with chronic stomach troubles are sensibly nourished than to forbid them everything.—*Medical Record, January 1, 1898.*

53.—HYPERÆSTHESIA OF THE MUCOUS MEMBRANE OF THE STOMACH.

By W. SOLTAU FENWICK, M.D. Lond., M.R.C.P.,
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Evelina Hospital for Sick Children.

Severe pain at the epigastrium occurring within half an hour of a meal is usually held to indicate either an inflammatory condition of the mucous membrane of the stomach or the presence of a gastric ulcer. There is, however, an important form of painful digestion in which the symptoms depend not upon any inflammatory or ulcerative disease of the stomach, but rather upon an exalted sensibility of the gastric nerves. This disorder, which is commonly known as hyperæsthesia of the mucous membrane of the stomach, possesses considerable interest from the point of view both of diagnosis and treatment, and appears worthy of more attention than is usually paid to it. [The etiology is omitted here.]

Symptoms.—The characteristic symptom of the disease is the occurrence of pain in the abdomen or in left side of the chest immediately after the ingestion of food. In mild cases the patient experiences a sense of weight, fulness or distension in the left hypochondrium, which commences as soon as she has swallowed a few mouthfuls, and continues for an hour or two. These abnormal sensations are excited by liquid as well as by solid food, and are usually most pronounced if the ingesta are either unduly hot or very cold. In a more severe type of the disease the patient complains of a scalding or lancinating pain in the left side of the abdomen, which radiates towards the epigastric and umbilical regions and over the back of the chest. After the pain has lasted for a short time nausea and vomiting ensue, and the patient rejects a portion of the contents of her stomach. In the most pronounced form of the complaint vomiting occurs almost as soon as the food has reached the stomach, and the patient experiences a constant feeling of emptiness, nausea or faintness, which is especially distressing in the early morning and before meals. In certain cases, and more especially in children who possess a strong predisposition to tuberculosis, the introduction of food into the stomach at once gives rise to an intense twisting or griping pain in the vicinity of the navel, which is followed in a short time either by vomiting or by an action of the bowels. In such cases it is probable that the transverse colon is thrown into violent peristaltic movements by the irritation of the hypersensitive stomach. Owing to the fact that the vomiting is usually incomplete, loss of flesh is seldom a noticeable symptom in those

cases where the disorder depends upon simple anæmia ; but in the hysterical and neurasthenic types of the complaint, rapid and severe emaciation is not infrequently observed. The appetite is variable and often capricious. In many of the cases that have come under my observation extreme hunger was complained of, although the patients feared to indulge their craving for food on account of the pain which was sure to follow. The tongue is usually pale, flabby, and indented along its margins by the teeth, the bowels are confined, and menstruation is either irregular or excessive. When anæmia is present the temperature is often elevated slightly at night. In almost every case the skin over some part of the abdomen is abnormally sensitive to the touch. As a rule this cutaneous hyperæsthesia is to be found over the fundus of the stomach or below the left breast, and the patient will draw attention to the fact by remarking that the skin feels as if it had been badly bruised. In other instances this phenomenon is limited to the epigastrium, while occasionally the region of the descending colon is alone affected. Firm pressure with the hand, on the contrary, is not productive of pain, and may even relieve the feeling of emptiness and faintness which is so often experienced between the meals. Physical examination of the stomach fails to detect any dilatation of the viscus, nor are its motorial functions in any way impaired. In the majority of the cases the secretion of hydrochloric acid presents no deviation from the normal, although Rosenheim has occasionally observed hyperacidity associated with gastric hyperæsthesia in anæmic girls.

Diagnosis.—The disease has chiefly to be distinguished from ulcer, gastric catarrh, and gastralgia. Both hyperæsthesia and gastric ulcer are especially prone to occur in young and anæmic women, and since the subjective symptoms which accompany the two complaints are very similar in their nature, a differential diagnosis may prove a matter of considerable difficulty. It is to be observed, however, that the pain of gastric ulcer is usually more severe than that of the functional disorder, while its onset is often deferred for fifteen minutes or more after the ingestion of food. It is also more readily excited by solids than by liquids, and may entirely disappear if the patient is strictly confined to a milk diet. Vomiting only ensues at the height of the painful crisis, and affords immediate relief to the pain. Cutaneous hyperæsthesia is rarely observed in cases of ulceration, but deep pressure over a circumscribed area in the epigastrium gives rise to acute pain and sometimes to vomiting. Hæmatemesis is a common symptom of gastric ulcer, but is never observed in hyperæsthesia of the gastric mucous membrane. Lastly, if the contents of the stomach be examined after a test meal an excess of the hydrochloric acid can usually be detected

if a perforating ulcer is the cause of the symptoms. Gastric catarrh occurs at any age, and is not abnormally frequent in anæmia and hysteria. On the contrary, its exciting cause is usually to be found either in exposure to cold, the use of unsuitable food or drink, or in the presence of organic disease in some vital organ of the body. The pain which accompanies catarrh of the stomach is rarely acute, and seldom occurs immediately the food has been swallowed. More commonly the patient experiences a sense of general discomfort in the abdomen from ten to thirty minutes after a meal, with flatulent distension of the stomach, nausea, and acidity. Retching and vomiting are inconstant symptoms, but may occur in the early morning as well as during the period of digestion. The appetite is always diminished, the tongue is foul, the breath is offensive, and the secretory and motor powers of the stomach are impaired. True gastralgia is characterised by sudden attacks of severe lancinating pain, which commences at the epigastrium and radiates thence over the abdomen, chest, and back. The pain occurs quite independently of the meals, and is often relieved rather than increased by food. The abdomen is retracted, and firm pressure with the hand often affords relief. Although general hyperæsthesia of the skin is absent, certain painful spots can often be detected over the left hypochondriac and epigastric regions of the abdomen. The disease, which is probably a neuralgia of the gastric nerves, is met with principally in locomotor ataxia, in ulcer and cancer of the stomach, and in neurotic individuals who are the subjects of severe anæmia.

Treatment.—Rest in bed is an imperative necessity in all cases where vomiting occurs after food. If epigastric pain is a prominent symptom a large linseed poultice or a mustard leaf applied over the upper part of the abdomen usually affords relief. In less severe cases the repeated application of a small blister is invaluable. At first the diet should consist entirely of milk, milk and barley water, or chicken or mutton broth, two or three ounces of which may be given every two hours. As soon as the more urgent symptoms have subsided, egg and milk, rusks soaked in milk, or milk puddings may be allowed. An ordinary diet should not be allowed until all pain and discomfort after food have completely subsided. With regard to the local treatment of the disease, Rosenheim recommends the use of nitrate of silver, and there can be no doubt that the employment of this drug is often attended by the most excellent results. In cases of medium severity it is usually sufficient to administer one-quarter of a grain of the salt dissolved in six ounces of distilled water each morning before breakfast; but in more pronounced or obstinate cases the same dose should be given three times a day before food. Cocaine lozenges and pills

containing atropine and opium have also been recommended for the treatment of the complaint, but they are inferior in their effect to the nitrate of silver. The ordinary bismuth mixture given immediately after food is an excellent treatment for mild cases met with in out-patient practice. In all cases the primary disease from which the patient is suffering requires the most careful attention. When anæmia appears to be the exciting cause of the gastric hyperæsthesia an attempt must be made to improve the condition of the blood by the administration of suitable remedies. If iron does not disagree, full doses of the tincture of the perchloride, of the tartrate, or of the ammonio-citrate may be given after food; but should nausea and flatulence follow the exhibition of these drugs, as is often the case, purified di-oxide of manganese in doses of two or three grains three times a day may be employed instead. This remedy I have found invaluable in cases of gastric disease where preparations of iron cannot be tolerated. If the symptoms of hysteria or neurasthenia are present they must be combated upon the ordinary lines. No method of treatment will prove completely successful unless the bowels are properly regulated. With this object, full doses of the liquid extract of cascara combined with extract of malt should be given night and morning after food, or a pill containing sulphate of iron and aloin may be given each night. Salines and strong purgatives must be avoided.—*Medical Press and Circular, March 30, 1898.*

54.—PERFORATING GASTRIC ULCER.

By R. DE STAWELL, B.A., M.B., B.C.

[The following is taken from Dr. Stawell's paper :]

We now pass in review the cardinal points in a typical case of perforation.

Onset.—The final rupture appears to happen frequently about two hours after a meal, or is brought about by some quick movement or strain, such as coughing, laughing, or lifting a weight. In many cases it suddenly occurs without any obvious reason, and there are several instances of the ulcer perforating while the patient is in bed.

Pain.—Sudden excruciating pain in the epigastric region is almost invariable, and is probably caused by the extravasation of the hyper-acid gastric contents. The pain is often at first definitely localised, and this may be of great help in the diagnosis, but it usually soon becomes generalised. It is sometimes felt in the back between the scapulæ, and in duodenal perforation may be marked in the right hypochondrium. Sometimes it appears to be referred to the inguinal or hypogastric region.

Shock.—The shock thus caused is very intense, and may prove instantly fatal, as in a case mentioned by Mr. Maurice, of Reading, where a servant girl was found dead on the stairs from this cause. Though this is unusual, the subsequent collapse is, as a rule, very severe; it varies, however, in degree, and may be almost absent.

Abdominal Rigidity.—The abdomen at first is often retracted, and nearly always rigid or “board-like,” the contraction of the left rectus being sometimes especially marked—a point which should always be looked for.

Tenderness.—There is usually marked tenderness in the epigastrium—an important symptom, I think.

Absence of Liver Dulness.—Even at an early stage free gas in the peritoneal cavity may cause obliteration of the liver dulness; if this be absent, it is a valuable sign. This should always be investigated, though it is by no means invariably trustworthy. In cases where the foramen of Winslow has been sealed by adhesions, perforation into the lesser peritoneal sac may admit of the persistence of an impaired percussion note. In these instances the apex-beat of the heart may be displaced, with symptoms of so-called sub-diaphragmatic pneumo-thorax, as in cases described by Dent and Bennett.

Respiration.—The respiratory movements are shallow, and usually limited to the thorax. There may be dyspnoea, especially in cases such as the two just mentioned, probably caused by pressure on the diaphragm. A point not generally looked for is the absence of Litten’s “diaphragm phenomenon,” to which Weir calls attention. It consists of the successive recession of the lower intercostal spaces on inspiration, corresponding to the descent of the diaphragm. Weir thinks it might be absent on the side where perforation had occurred, that half of the diaphragm sharing in the general rigidity. This I have been unable to observe, and I think the sign would be a difficult one to be sure of in any but the sparest subjects.

Pulse.—This is as a rule frequent, feeble, and fluttering, but may be small, hard, and wiry, though this character is not usually observed till later.

Vomiting.—Dreschfeld stated in 1888 that vomiting was absent in cases of perforation, and Treves (*System of Surgery*, vol. ii., 1896) concurs with this view; but the reports of recent cases in no way bear out this assertion. In Weir and Foote’s list vomiting was certainly present in 36 per cent., while in only 8 per cent. (four cases) was it stated to be absent. In the others the point was unfortunately not noted. Struve’s experience was that it occurred in two-thirds of all cases of perforation, and was only likely to be absent where the aperture was large. In my list of thirty cases vomiting was recorded in twenty-one,

or 70 per cent. ; not mentioned in seven, and stated to be absent in only two, or 7 per cent. In most instances the vomiting occurred soon after the perforation, and was not repeated more than two or three times. Vomiting of blood is very rare ; in no case is it definitely mentioned. In three cases the vomit was remarked to have been dark, having in two a "coffee-grouts" appearance. A valuable sign of rupture is the immediate pain, and often vomiting, at once brought on by anything, such as brandy, which the patient may have been unwise enough to take by mouth. In a few instances surgical emphysema of the abdominal wall has been remarked.

Temperature.—During the period of shock the patient presents the usual well-known appearance, being cold with blue extremities, and in many instances the thermometer has shown a subnormal temperature. After an hour or two the temperature frequently has been recorded to have risen rapidly to 101° or 102°—a valuable diagnostic sign, as Mr. Barling points out.

Reaction.—After the initial stage of shock most authorities appear agreed that there is a period of reaction before symptoms of peritonitis and septic intoxication set in. The pain becomes less severe, the pulse improves, and the patient appears altogether somewhat better. Where operative procedure is practicable, this is the opportunity that should be seized. In many cases, however, little or no reaction is manifest, and the symptoms of collapse merge into indications which are still more alarming. The pain becomes diffused over the whole abdomen, which is now distended and tympanitic—the liver and splenic dulness being lost—and exquisitely tender. The knees may be drawn up, and the respiration is entirely thoracic. The expression is anxious, the well-known Hippocratic facies being frequently observed ; and the temperature in many instances at this stage has been found to be over 100°, while the pulse is quick and wiry. In fact, there is now the usual picture of what Gübler terms "peritonism."

If no operation has been undertaken for the relief of the trouble the patient rapidly sinks, usually dying in a few days, though the end may come in as many hours. The shortest time in which death occurred at St. Bartholomew's was seven hours, the longest fourteen days. Death may be due to shock, collapse, peritonitis, or other septic complications. A case of death from shock has already been mentioned, and another instance may be cited from our hospital records. A boy, under treatment for appendicitis, suddenly died. At the post mortem, although there was a distinct perforation, there was no peritonitis in the neighbourhood.—*St. Bartholomew's Hospital Gazette, March, 1898.*

55.—CERTAIN OBSCURE ABDOMINAL CONDITIONS APPARENTLY REQUIRING OPERATIONS.

By G. A. WRIGHT, F.R.C.S.,

Senior Assistant Surgeon, Manchester Royal Infirmary ;
Surgeon to the Children's Hospital.

[The following interesting paper is of great importance both to physician and surgeon. As Mr. Wright says, similar cases will have come within the experience of many of those connected with large hospitals. More information is urgently needed upon the subject.]

It has happened to me, and no doubt to most other surgeons, to be called every now and then to a patient who appears to be suffering from acute peritonitis due to perforation, or perhaps from acute obstruction, and yet, on opening the abdomen, no lesion sufficient to account for the symptoms is found, and while some recover after—though not, so far as I can tell, by reason of—the operation, others die, and even at the necropsy no explanation is forthcoming. Some years ago I was sent for to the Royal Infirmary to see a man of 22, who appeared to be suffering from acute intestinal obstruction urgently requiring relief. I opened the abdomen and found the stomach enormously dilated, the intestines empty and collapsed. It was thought there were some old adhesions on the under surface of the liver, but nothing else. The stomach was punctured and subsequently washed out with an œsophageal tube. It contained three pints or more of fluid. The man died a few days later of peritonitis, and post mortem nothing wrong was found but dilatation of the stomach and duodenum. Some time after I was asked to see a young adult whose symptoms so vividly recalled this case that I recognised it as an instance of that acute dilatation of the stomach which is so like an acute obstruction, and so fatal. I did not operate, and this patient also died. One night, a good many years ago, I saw a man who was thought by his doctor to be suffering from intestinal obstruction due to malignant disease of the pancreas. I took him into hospital and opened his abdomen; the pancreas felt hard and was apparently infiltrated with growth. Nothing could be done, and I closed the wound. The man recovered without a bad symptom, was able to do his work for years, and I saw him again recently in the infirmary, suffering from some illness unconnected with his old complaint, of which no trace but the scar of the operation remained. Only a week or two ago I was sent for to the infirmary to see a young woman with acute peritonitis from perforating gastric ulcer. Immediately after the operation I saw a patient admitted that day to the medical wards, a woman of 27, who had been several

times in hospital with gastric ulcer attended by severe hæmatemesis. She was readmitted that day, collapsed and complaining of sudden severe burning pain all over the abdomen. When I saw her she was still collapsed, though, perhaps, somewhat less so than on admission. The abdomen was very painful, not greatly distended, and the history seemed so clearly to point to perforation of an ulcer that I decided to operate at once. On opening the abdomen no escape of visceral contents was found, but at one spot in the stomach we thought the wall seemed thinned, as if it corresponded to an old ulcer on the inner surface. However, no perforation was found. The woman was so collapsed that no further search could be made, and I closed the abdomen, having found nothing to account for the condition, but fearing that a perforation existed somewhere. She lived only some forty-eight hours, and at the necropsy Dr. Kelynack, who examined with the utmost care, found absolutely no trace of any lesion whatever, no ulcer of stomach or duodenum, or anything to account for the symptoms.

Other examples of such conditions could be related, and no doubt like stories will recur to the memories of many of us. Unsatisfactory as they are, it is well to remember that such apparently inexplicable cases are met with, and to look for a solution of the mystery, for, of course, there is some definite cause of such severe symptoms. Why acute dilatation of the stomach occurs and why it should so closely simulate obstruction at times is a problem of which various solutions, none very satisfactory, have been offered. The man with apparently malignant disease of the pancreas and obstruction from matting of the intestines was probably the subject of chronic inflammation only, and at the operation adhesions were probably broken down; but it is only "probably"—I do not know. Of the simulating perforating gastric ulcer I can suggest no explanation. Possibly this note may induce others to record similar experiences and to give explanations of them. They are much needed for future guidance in a very perplexing and too often unsatisfactory group of problems.—*The Practitioner*, December, 1897.

56.—THE TREATMENT OF EXCESSIVE TYMPANITES.

There are three conditions in which excessive tympanites becomes a symptom of considerable importance, namely, typhoid fever, intestinal obstruction in its various forms, and in forms of pulmonary disease, chiefly pneumonia, in which the pressure of the gas upon the diaphragm and the thoracic viscera gives the patient much distress. Of course there are many other

diseases in which a considerable quantity of gas may form at times in the stomach and intestines, yet it is in these three instances that we have named that it most frequently gives rise to serious discomfort or even danger. Under these circumstances the question at once arises as to what is the best method to give relief to the patient. In the majority of cases of typhoid fever this condition can be prevented, if the patient is seen early in his attack, by a proper direction of the diet and control of the bowels, using mild purgatives when they are needed to overcome constipation and mild anti-peristaltics when diarrhoea becomes excessive. In a proportion of cases, however, even these precautions are not successful in warding off this complication, and under these circumstances it is our custom to direct that a turpentine stupe as hot as the patient can bear shall be placed over the abdomen and allowed to remain until it produces considerable counter-irritation. The period during which it remains in contact with the skin varies of course with the susceptibility of the patient's skin to this irritant. It may be that other counter-irritants are equally useful, but experience has seemed to indicate to us that turpentine is the most efficient. If the tympanitic distension is not relieved by this application, a rectal injection of two to four ounces of milk of asafœtida, pure or diluted half with water, is resorted to, and if this does not give relief a few drops of turpentine are added to a fresh injection of milk of asafœtida, care being taken that the turpentine is thoroughly broken up in the asafœtida emulsion so that no separate drops of the irritant oil will come in contact with the rectal mucous membrane. In other cases turpentine made into an emulsion with starch water, or thoroughly mixed with sweet oil, and given by rectal injection is equally efficient; but if all these remedies fail, then the rectal tube passed well up into the sigmoid flexure as far as possible and as gently as possible will generally allow the passage of the wind. Should these comparatively moderate means fail to give the patient relief, the question at once arises as to what other means there are at our disposal, and in this connection it is interesting to recall the very careful and able studies made by Ogle, of London, a number of years ago upon the subject of puncture of the abdomen for excessive tympanites. This investigator has collected from the experience of a large number of medical and surgical friends a great number of cases, which he has placed together in a complete essay. The result of his study is that in a certain proportion of cases puncture of the abdominal wall and intestine is safe and expedient and often followed by good results, and that in cases which are necessarily fatal its use will often render the patient's death much more easy than had the distension been allowed to remain or increase.

In Ogle's studies it was found that the operation is suited chiefly to those cases which have distension of the colon and stomach, for the numerous coils and kinks of the small intestine, and the fact that its calibre is much less than either of the viscera which we have named render accurate puncture difficult unless the knuckle of distended gut is particularly prominent. It seems evident, too, that puncture of the stomach is rarely if ever justifiable, because great distension of this viscus can nearly always be relieved by the use of the stomach tube or œsophageal tube. It is only when grave obstruction to the œsophagus or cardiac orifice exists that puncture for distension of this organ is permissible. Ogle believes that incurable cases of bowel obstruction are relieved of their most distressing symptoms by this means, and that curable cases are greatly aided by it, since by this means vital organs are relieved from pressure, and purgative drugs, which before the gas was withdrawn could not move the bowels, have an opportunity of unloading them. It goes without saying that in making the puncture careful anti-septic precautions as to the condition of the nails and the patient's skin over the abdominal area are to be taken. The skin should be as carefully prepared as it would be for an abdominal incision, and the cannula or hypodermic needle which is used for puncturing purposes should be as small as possible, in order that the wound in the abdominal parietes, and particularly in the wall of the gut, may be so minute that the muscular fibres will immediately close it when the needle is withdrawn. Further than this, if a large needle is used which has to be reinforced by a trocar passed through it, this trocar, the point of which should be sharp, should not have triangular edges but be perfectly round, in order that the puncture can remain open; and, again, as there is a certain amount of danger in withdrawing the needle of infecting the peritoneum or the abdominal wound by minute portions of the intestinal contents which may adhere to the needle, it may be advisable to allow a small quantity of saline fluid to flow inwards through the needle while it is still *in situ* after gas has ceased to come away from it, in order that any intestinal contents in its calibre may be washed back into the bowel and not withdrawn into the wound. When it is considered what grave insults the peritoneum will receive without resentment when it is in a healthy condition, the danger of infection in the way that we have hinted at cannot be very great. On the other hand, it is not to be forgotten that in case of intestinal obstruction in particular the susceptibility of the peritoneum to infection is greatly increased. It is better to make a number of punctures in various portions of the bowel for the purposes of relieving the gas, using in each instance a fine cannula or needle, than it

is to use one or two punctures with a large cannula. Ogle asserts that fæcal extravasation has never in his experience followed such punctures, nor have they given rise to adhesions; and, further, that should more serious operative procedures be required these punctures in no way increase the danger to the patient. In an editorial which was published in the *Medical News* some years ago, the writer mentioned a case in which the ingestion of a number of pigs' feet, which lodged in the lower colon, caused intestinal obstruction to such an extent that all purgatives and injections were futile, and yet the cardiac distress was so great as to force the writer to the use of hypodermic needles, which were inserted at various points along the course of the colon. Gas rushed through these for fifteen minutes before the colon became entirely collapsed, but after its collapse the purgatives, which had been administered, acted, and the obstruction was removed. Recovery followed.

We have called attention to this means of treatment of severe tympanites not because we think it should be used in many cases, but because it seems a justifiable operation in some instances. It is not to be resorted to carelessly, nor until every other means of greater safety for the removal of the flatus has been carried out; but as a last resource which will sometimes succeed, sometimes fail, in relieving the distension, and which is not so dangerous as to seriously imperil the patient's recovery. We believe that the physician should always remember this method of giving relief.—*A leading article in the Therapeutic Gazette, March 18, 1898.*

57.—CHRONIC INTESTINAL INDIGESTION IN CHILDREN.

By Dr. S. HENRY DESSAU.

[Dr. Dessau read a paper on this subject before the North Western Medical Society.]

Infants, during the first four months of life, whether wet-nursed or artificially fed, should not be given more than four ounces at a feeding, and should not be fed oftener than every two hours during the day and every four hours during the night; from the fourth to the eighth month six ounces of food should be given every three hours during the day and once during the night; after eight months, eight ounces of food should be allowed every four hours during the day and once during the night. When the mixed diet is begun the starchy foods, such as oat-meal, barley, wheaten grits, &c., should be cooked not less than one hour, and never more than four ounces should

be allowed as a portion. In older children, milk and not tea or coffee should form the usual beverage until the age of seven, and, instead of fresh bread, stale bread toasted or a crusty roll should be allowed. Meat, not fried or overdone, should be given at the mid-day meal only, and it is best not to give it every day. Cheese, sweets, pastry, and any form of boiled doughs should not be allowed. The child should be instructed to eat slowly and thoroughly masticate its food. Between meals the drinking of pure water should be encouraged. The general appearance of a child suffering from chronic intestinal indigestion is one of disturbed nutrition. It is languid and pale or has a dingy complexion. The circulation is poor, and the hands and feet are cold and blue. There is often some discoloration under the eyes. The skin becomes harsh and rough over the arms and trunk, and in advanced cases there is loss of flesh. There is an irritation about the nostrils and anus. Sleep is restless and disturbed, and the child talks in its sleep or has attacks of night-terror. A curious irritability of temper is a characteristic feature. The appetite may be fairly good, but is appeased by the first few mouthfuls. Thirst is often marked, and occasionally a craving for acids is noted. Abdominal pain is often a prominent symptom, the attacks of which are sometimes very severe. The tongue is moist, glossy, and covered with a thin gray fur. There is often a denudation of epithelium in sharply defined patches, a condition described by Batlin as "wandering rash of the tongue." The urine is clouded with phosphates or contains large quantities of uric acid and oxalate of lime crystals. As a rule, there is constipation, although sometimes the movements are loose and contain thick mucus. The stools are pasty, light yellow in colour, and more or less coated with mucus. Prolapse of the rectum is a frequent complication, but, unless of long standing, it disappears without any treatment other than that directed toward improving the condition of the entire intestinal tract.

In the treatment of chronic intestinal indigestion more depends upon the faithful execution of precise instructions in the management of diet and other hygienic requirements than upon any remedies which the physician may prescribe, although such will always prove useful. The diet, therefore, should first be regulated. These children should not be allowed, except in the most limited quantity, any of the starchy foods, such as potatoes, corn, rice, and the breakfast cereals, unless one of the amylolytic ferments, such as diastase, taka-diastase, or peptenzyme, has previously been added. Coffee and tea, also fats and sugar, except in the smallest amount, should be forbidden. Meat will be found to agree with the child better than anything else for a time, until the digestive function is

restored. Soups and extracts should not be given. Hydrotherapy in the form of warm wet packs followed by a cold sponge douch at 60° F. to the spinal column and abdomen, with brisk friction, as recommended by Baruch, are indicated to promote oxidation of tissue and elimination of waste matter. In the constipation of infants, cold wet compresses to the abdomen followed by massage along the line of the colon will be found beneficial. Rectal irrigation with water at a temperature of 110° F., by means of Kemp's tube, is an excellent way to relieve the attacks of abdominal pain. In infants, the principal indication is to relieve the constipation and flatulence by means of drugs. For this purpose calomel and bismuth are the only drugs which are recommended. The former should be given in doses of from 1/20 to 1/10 of a grain, in the form of tablet triturates, every two or three hours, from three to five days at a time, and again administered after an interval of a week or ten days. When there is excessive flatulence or an eruption of urticaria, bismuth, either in the form of the subnitrate or subgallate, should be given in doses of 5 grains three times daily. After the period of dentition is passed, a tonic-laxative, consisting of cinchona and nux vomica with senna or cascara sagrada, is indicated. To this may be added spigelia on account of its effect in preventing the development of intestinal worms:—
 R Ext. spigelia fl., ℥ ii; ext. sennæ, ℥ ii (or ext. cascariæ fl. ℥ j);
 tr. nucis vom., ℥ i; tr. cinchonæ comp., ℥ iv; syr. sarsaparillæ
 com., ℥ ii. M. Sig. One teaspoonful three times daily.

If an intercurrent infectious disease has aggravated the symptoms, 2 grains of iodide of potassium may be added to each of the above doses; or, if sleep is disturbed or enuresis troublesome, 3 to 5 grains of bromide may be added in the same manner. If prolapse of the lower bowel occurs, 3 to 5 drops of the fluid extract of hydrastis may similarly be added. If the child is anæmic, the use of iron is indicated, and the administration of the spigelia mixture may be alternated a month at a time with the elixir of the manganate of iron. When the round worms or their ova are found, santonin in ½-grain doses should be given three times daily, either with or without calomel, or the combination of fluid extract of spigelia and senna in dram doses may be given night and morning during one or two days. The remedies mentioned should be administered three months, in alternating courses of three weeks each. After an interval of three or four weeks, the same medication may be again employed with advantage.

Discussion.—In the discussion Dr. Baruch said that Dr. Eustace Smith had shown wisdom in calling this condition "mucus disease," for that is really what it is, and in its treatment calomel is a most valuable agent for cleansing and

antisepticising the upper intestinal tract. Hot water by the mouth is also of great value, because it is not absorbed by the stomach but is immediately poured into the intestine. More valuable than anything else is the rectal irrigation which I very frequently employ. I have seen cases in which it at once reduced the temperature and caused the symptoms to disappear. I employ irrigation daily, injecting from a pint and a half to a quart of warm water; it acts by increasing the peristaltic action of the intestine. It certainly does not reach the duodenum, but I am sure it does reach the ilio-cæcal valve. Whenever peristalsis is thus mechanically increased, important changes in the condition of the patient will follow. In addition to the irrigation, I apply a wet compress at 60° to 65° F. to the trunk. When the temperature is above 101° F. I order a full bath at 95° reduced to 85° or 80° F., according to the amount of fever, and followed by friction. I have not found any necessity for treating such cases medicinally as recommended by the author.—*Medical News*, April 16, 1898.

58.—ENTEROPTOSIS.

For the diagnosis of gastroptosis Langerhans introduces into the stomach a stomach tube with a soft-rubber bag or condom tied over the end, and then inflates the bag with a measured amount of air by means of a syringe of known capacity. In cases of pure gastroptosis distension first appears low down, sometimes at the level of the navel in the middle line, and sometimes a little to the left. This tumour soon appears as a transversely placed swelling, which extends from left to right at the level of the umbilicus, and from the left extremity of which a limb extends directly upward under the lower border of the thorax. The most important etiological factor of enteroptosis is a weakening of the muscular tone of the abdominal wall, the muscles of which, in some manner not yet fully understood, maintain the intra-abdominal organs in their normal positions. This class comprises the post-puerperal enteroptoses of Landau. In contrast to this is a second form, comprising those cases associated with chlorosis—due either to the fact that the anæmic supporting ligaments of the viscera stretch under their weight, that the slowly moving contents in the anæmic intestinal canal drag unduly upon the mesentery, or to other unknown causes—the enteroptoses of Meinert. Langerhans believes also that “nervous dyspepsia” is a cause of gastroptosis, and recognises a hereditary predisposition or inherited tendency to enteroptosis. He does not believe that the wearing of corsets possesses the importance as a cause of this disease which Meinert ascribed to

it. A moderate degree of enteroptosis, when it is consecutive upon frequent child-bearing, is physiological, and productive of no symptoms. Cases of "Meinert's enteroptosis" seldom fail to produce symptoms. The most frequent symptoms are those of aggravated dyspepsia, pain and demonstrable abnormalities of secretory and motor functions. The descent of the abdominal organs changes the mechanical relations so that lasting injuries result, sometimes due to pressure upon the unprotected kidneys, sometimes to increased demands upon the propulsive muscles of the stomach, always to the stretching of the mesentery. By the cumulative effect of these numerous and continuous irritations, even though each in itself is comparatively slight, the central nervous system becomes exhausted, and according to individual predisposition, neurasthenia or hysteria with especial prominence of abdominal symptoms is the result. Enteroptosis is the commonest cause of intestinal neurasthenia and hysteria. The application of a bandage is of advantage only in the post-puerperal type of cases; abdominal massage and rubbing with alcohol should also be ordered. Operation or mechanical measures for fixation of the kidneys have been found of advantage only in the extremely rare cases in which other organs are slightly or not at all involved. Thure Brandt's vibration over the kidneys, and faradisation of the abdominal wall have proved of only slight advantage. Most important of all therapeutic measures are gymnastic movements, calculated to strengthen the abdominal muscles, such as bending or twisting the trunk in the sitting, lying and standing positions. Of the efficacy of yeast (Günzberg) Langerhans has not been convinced. Sesamol, as recommended by Van Noorden, has been almost universally well borne and under its administration increase in weight and improvement in the general condition have been noted. The condition of the nervous system demands most careful observation and treatment.—*Leading article from the Boston Medical and Surgical Journal, March 3, 1898.*

59.—HEPATIC COMPLICATIONS OF TYPHOID FEVER.

By WILLIAM OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore.

[The details of the author's cases and numerous references to published cases have had to be omitted from this most interesting paper.]

Considering the close connection between the liver and the intestines, and the liability of this organ to be involved in

ulceration of the bowel, it is surprising that hepatic complications are not more common in typhoid fever. Long series of cases may be treated without a symptom pointing to implication of the liver, or, indeed without a single sign indicating enlargement of the organ or disturbance of its function. I propose in the following paper to deal somewhat systematically with the complications which arise in the course of enteric fever. The subject has recently attracted a good deal of attention, particularly with reference to the frequency of infection of the bile passages and its association with gall-stones and suppurative cholecystitis. I shall take up the question under the following headings:—(1) The focal necroses; (2) jaundice in the course of the disease; (3) abscess; (4) affections of the bile passages.

1. *Focal Necroses*.—So far as we know, these necroses cause no symptoms, though it is quite possible that a widespread involvement of the liver lobules might cause an icterus gravis, which occasionally develops in typhoid fever, or subsequently, in their fibrous transformation, lead to cirrhosis.

2. *Jaundice*.—The extreme rarity of this symptom in typhoid fever may be gathered from the fact that, among the first 500 cases forming the basis of this report treated in my wards at the Johns Hopkins Hospital, there was not a single instance. The cases of jaundice in typhoid fever may be grouped in four categories—(1) Catarrhal; (2) toxic; (3) those associated with abscess; and (4) those associated with gall stones and cholangitis. It is surprising indeed that catarrhal jaundice does not occur more commonly in this disease. Griesinger states that it is the form which develops early, is quite slight and transitory, and has no influence on the course of the disease. I have never seen an instance at the onset of the fever, but the following is a very good illustration of jaundice at the onset of a relapse, following a protracted attack of nausea and vomiting:—

Case 1.—Severe gastric symptoms; jaundice at the onset of a relapse; recovery.—Severe toxic jaundice is exceedingly rare in typhoid fever. The most carefully studied case I know of is that reported by Sabourin. A man, aged 29, who had always enjoyed good health, was admitted to Prof. Jaccoud's service in about the third week of typhoid fever. He had very intense icterus, great prostration and delirium, and with these symptoms frequent epistaxis and hemorrhages from the intestines. The liver at the autopsy was reduced in size, soft, and in a condition corresponding microscopically to acute yellow atrophy. In the following case the jaundice developed at the end of the second week with much delirium, and the patient died in a condition of toxæmia, with low temperature. *Case 2*.—Severe attack; jaundice at the end of second week; much delirium; low

temperature ; nystagmus ; death on the sixteenth day. Jaundice would appear to be more common in the tropics. Alexander Jamieson, in an admirable discussion of typhoid fever as met with in China, cites nine cases in which deep jaundice occurred. Of these, four died. He thinks it is more fatal the earlier it develops.

3. *Abscess*.—(a) Suppurative pylephlebitis.—This is an excessively rare sequence of the disease. I have seen one instance of it which is given in full in my "Pathological Report, No. 1," from the Montreal General Hospital. (b) Solitary abscess.—This is very much more rare than pylephlebitis. In nearly one hundred autopsies in the disease I have not seen an instance. (c) Suppurative cholangitis.—Apart from the gall bladder complications, which will be considered separately, abscess of the liver may be due to suppurative cholangitis. The cases are very rare. Klebs has reported one in his "Handbuch der pathologische Anatomie," in which the bile passages within the liver were dilated into large cylindrical cavities, containing necrotic yellowish material. The common duct showed no trace of any change. (d) Secondary to the complications of typhoid fever.—Romberg refers to an interesting group of cases in which the abscess is secondary to some of the inflammatory sequelæ of the disease. He quotes a case from Louis, in which liver abscess followed abscess of the right parotid ; a case from Chvostek, in which two large liver abscesses were found in connection with perichondritis of the larynx in typhoid fever ; and two cases in which the abscess followed peripheral bone lesions in the disease.

4. *Affections of the Bile Passages*.—Much more common are the complications and sequelæ of the bile passages in typhoid fever. The subject may be discussed under three headings, namely, the incidence of typhoid bacilli in the gall-bladder in the bodies of persons dead of typhoid fever ; the occurrence of acute cholecystitis and cholangitis during and after typhoid fever ; and the relation of typhoid fever to gall-stones. (a) The incidence of typhoid bacilli in the gall-bladder in typhoid fever.—A number of careful studies have been made upon the frequency of infection of the bile passages in typhoid fever. Dr. Flexner has very kindly given me the results of the examinations which have been made in the Pathological Laboratory of the Johns Hopkins Hospital. Cultures were made in fourteen cases from the gall-bladders of persons dead of the disease. Typhoid bacilli were present in seven instances. In five cases other organisms were found ; in three the *Bacillus coli communis* ; in one the *Streptococcus pyogenes* ; in one the *Proteus*. In one case the nature of the organism was not fully determined. In looking over the histories of the seven fatal cases, from the gall-bladders

of which the typhoid bacilli were isolated, there were no hepatic symptoms, so that the infection was latent. (b) Cholecystitis and cholangitis as complications and sequelæ of typhoid fever.—From what has been said in the previous section, it is very evident that the bacilli may be in the gall-bladder in numbers, and for a long period of time, without exciting any inflammation. Chiari's observations would warrant the conclusion that cholecystitis without any actual symptoms was by no means an uncommon event in the disease. In reality, systematic writers have for a long time recognised the importance, both clinically and anatomically, of the gall-bladder complications of the disease.

The following cases have come under my observation within the past two years:—*Case 1.*—Typhoid fever; pyrexia of exactly twenty-seven days' duration; attack of colic, probably from gall-stones, during convalescence; good health for nearly seven months; acute suppurative cholecystitis; perforation of gall-bladder; operation; recovery. *Case 2.*—Severe typhoid fever; protracted convalescence; pain in region of gall-bladder; jaundice; chills; phlegmonous cholecystitis; laparotomy; death. *Case 3.*—Characteristic typhoid fever in November and December, 1895; readmitted 30th November, 1896, in a febrile attack of about eight days' duration, of indefinite character; readmitted 5th March, 1897, with high fever and great pain in the right side; development of jaundice; double parotitis; recovery. The first attack in November, 1896, and the second in March, 1897, were both doubtless due to cholecystitis—certainly the latter. Parotitis is a not infrequent sequel of acute inflammatory conditions in the abdomen, as pointed out by Stephen Paget. (c) Typhoid fever and gall-stones.—Bernheim, of Nancy, seems to have been the first to suggest the possibility of a casual relationship between typhoid fever and gall-stones. He states that he has three or four times seen attacks of colic in the course of typhoid fever in patients who had not before presented any similar troubles, and he asks whether it is not possible that the typhoid fever causes an alteration or a stagnation in the bile which predisposes to lithiasis in susceptible persons, or the typhoidal gastro-intestinal catarrh may be propagated along the biliary passages. Dufourt has noted the existence of a previous typhoid fever in nineteen subjects of gall-stones. None of these had had any signs previous to the attack. In twelve the first colic occurred in less than six months after the fever. Twice the attack occurred within two months, six times in three months, three times in the fourth month, and once in the fifth. I have given the cases which came under our observation. In Case 1 the patient had an attack of hepatic colic during convalescence and shortly

after, and then remained perfectly well for nearly eleven months, when she had acute cholecystitis; perforation of the gall-bladder and gall-stones were found. In Case 2 the patient had an acute pain and symptoms of gall-stones at the onset, but it proved to be an acute suppurative cholecystitis. In Cases 3 and 4 it was not determined whether gall-stones were present. It is always worth while in the subjects of gall-stone colic to inquire particularly with reference to the previous attacks of fever. In Case 4 the colic and jaundice developed within four weeks after convalescence. The infection of the bile passages with the typhoid bacillus may, as we have seen, be perfectly harmless—that is to say, the gall-bladder may show no signs even of catarrh. In other instances intense cholecystitis may be excited; while in a third group the so-called lithogenous catarrh may develop from the irritation of the bacilli, leading to the formation of gall-stones. Of course it is quite possible that a patient with gall-stones—and we know the percentage of those who have them is very large—may be attacked with typhoid fever, and the presence of the calculi in the gall-bladder may favour the settlement and growth of the bacilli, and it may not always be possible to determine which had taken place first. I recently saw in the surgical wards with Dr. Cushing a remarkable case, which illustrates a third possibility, namely, that the typhoid bacilli may, under certain circumstances, like the pneumococcus, be present without exciting the specific lesions of the disease. *Case 5.*—Gall stones; acute cholecystitis; operation by Professor Halstead; typhoid bacilli cultivated from the gall-bladder; no previous history of typhoid fever; recovery. The case, which so far as I know is unique in literature, will be published in full by Dr. Cushing, with the necessary details about the cultures.—*Edinburgh Medical Journal*, November, 1897.

60.—GROWTHS OF THE GALL-BLADDER AND BILE-DUCTS.

By T. N. KELYNACK, M.D. (Vict.), M.R.C.P. Lond.,
Pathologist, Manchester Royal Infirmary, &c.

[The following is taken from Dr. Kelynack's very thorough article on this difficult subject:]

We will proceed to briefly note those conditions most likely to give rise to difficulty in differentiating growths of the biliary passages, and more especially those in connection with the gall-bladder:—*Non-malignant Lesions of the Bile-Duct.*—Catarrhal conditions of the hepatic ducts and common bile-ducts

are by no means rare. They often give rise to considerable general derangement, being frequently associated with vomiting, diarrhœa, and sometimes a certain degree of pyrexia. The jaundice is usually of only a temporary character. Under suitable medical treatment, perfect recovery, generally quickly, is brought about. The most important lesion in connection with the common duct is impaction of calculi. Here a history of biliary colic is almost invariably obtained. Gall-stones are found in the common duct, according to Courvoisier, in about 4 per cent. of all cases. Mayo Robson found calculi present in this position in no less than 20 per cent. of his cases. Jaundice is usually not so intense as in cases of primary growth of the duct, neither is it so persistent. Fenger has recently explained the remittent character of the jaundice in many of these cases of gall-stones by considering that they act as a ball-valve. The condition of the gall-bladder is of much interest, and of real diagnostic importance in many of these cases. Courvoisier, Tuffier, Tessier, and others have shown that in calculous obstruction the bladder is usually collapsed. Mayo Robson puts it briefly thus:—"Jaundice, with distended gall-bladder, is presumptive evidence in favour of malignant disease, but jaundice without distended gall-bladder favours the diagnosis of cholelithiasis." Still, too much importance must not be given to this consideration of the size of the gall-bladder. In the cases of malignant growth in the common duct which have been examined in our pathological department, the gall-bladder seems generally to have been distended. In one case it was adherent to the liver and to the transverse colon. On the other hand, the gall-bladder has certainly been distended in some of the cases of obstructive jaundice, although it is but fair to admit that these were usually of a persistent character, and due to encroachment by growth from adjoining parts. In a case of cancer of the head of the pancreas in a man of 43, the common duct was completely obstructed and the gall-bladder immensely distended. In a similar case, occurring in an adult female, the gall-bladder was distended and contained a number of gall-stones. In a woman of 46 a growth in the duodenum involved the aperture of the common duct. All the ducts and the gall-bladder were much dilated. Dr. Brockbank believes that the gall-bladder is rarely dilated when the obstruction in the common duct is due to a gall-stone. "In the majority of cases it even atrophies." He further states that he has never noted any case in which a stone arrested in the trunk or at the duodenal orifice of the common duct caused distension of the gall-bladder.

Hydrops and other Conditions of the Gall-bladder.—A condition of persistent distension of the gall-bladder may give rise

to the formation of a tumour which may closely resemble and strongly suggest primary malignant disease. The gall-bladder becomes distended, with a clear or somewhat turbid fluid, and the outlet is obstructed either by a morbid condition of the walls of the cystic duct, usually of an inflammatory nature, by an impacted calculus, or by compression from without. In arrested gall-stone Courvoisier noted hydrops of the gall-bladder 79 times out of 91 cases. In these cases of simple hydrops the tumour is usually smooth and of a more or less pyriform shape. It is generally directed obliquely, its fundus being towards the umbilicus. A history of cholelithiasis may sometimes be obtained. There is no cachexia. Rigidity of the abdominal walls often much increases the difficulty in diagnosis. In not a few cases diagnosis can only be made clear by surgical exploration, and as in these cases the patient is always in a serious and risky condition from the liability of the distended bladder to burst, compress the intestines, or set up inflammation troubles, the case may be placed under the care of a surgeon with a free conscience. I have elsewhere recorded a case which well exemplifies the difficulties and dangers arising from a condition of hydrops associated with retained gall-stones and the early development of cancer. In case of distension of the gall-bladder it is important to remember that there may be very considerable increase in size without its being very apparent. I have often found that where a gall-bladder projected only very little beyond the margin of the liver it might, nevertheless, be very prominent and much increased in extent below it. In some instances, either as the result of mechanical compression and consequent elongation of the liver, or by overlapping of a congenital tongue-like process of the liver, the distended gall-bladder may be kept out of reach of our means for clinical investigation. Simple distension of the gall-bladder with bile is sometimes mentioned as associated with a "gall-stone attack." It is a rare condition, and could not be mistaken for a dilatation combined with growth.

Riedel's Lobe.—Not infrequently tongue-like processes of the liver substance from the anterior border of the organ are met with. I have observed a number of cases in the post-mortem room. In many instances irregular processes may be met with in quite normal livers. I quite agree with Osler when he says:—"It is not always, however, associated with dilated gall-bladders, and I have seen very curious elongations of the anterior margin of the right lobe in perfectly normal livers, and in several instances of the posterior margin of the left lobe." A thorough investigation of the case will usually show that it is not malignant; but exploration may alone demonstrate the exact cause of the tumour-like prominence, as in an

interesting case recorded by Osler occurring in a neurasthenic woman of about 56 years.

Congenital or Acquired Malformation of the Gall-bladder.—Not only may difficulties arise from abnormalities of the liver substance, but alterations of the gall-bladder, either as regards form or position, may add to the perplexities of diagnosis. These, in my experience, are rare. There certainly is much variety in the size and general shape of the gall-bladder, but is usually only noted post-mortem.

Primary and Secondary Cancer of the Liver.—Where the liver is the seat of growth there is but little practical importance in deciding exactly where it originated. It is often quite impossible. In some a consideration of the early history may strongly suggest the origin in the gall-bladder. Wherever the growth is extensive in the liver the initial seat must remain doubtful until at least the autopsy. Of course where the growth is manifestly secondary, the primary growth, if carefully searched for, will usually be readily ascertained. It is important to remember that the gall-bladder may become affected by secondary malignant disease.

Hepatic Cirrhoses.—In some exceptional cases of syphilitic cirrhosis, or in those rare instances of so-called "nodular" or adenomatous cirrhosis, an irregular, tumour-like mass projecting from the anterior margin of the liver may simulate a growth of the gall-bladder. The absence of evidences of cholelithiasis, and the history of syphilis or alcoholism, together with indications of portal pressure, will usually clear up all doubts.

Aneurism.—Unlikely as it seems, aneurism has been mistaken for gall-bladder tumour. The late Mr. Greig Smith noted a case of aneurism of the pyloric artery which was diagnosed as enlargement of the gall-bladder.

Cancer of the Stomach.—Gastric cancer, especially when involving the region of the pylorus, may be confounded with primary malignant growth of the gall-bladder. The usual methods for the diagnosis of gastric cancer will generally enable the seat of the growth to be correctly located. In early, but doubtful, cases, exploratory incision should be advised.

Duodenal Growths and Ulcers.—Malignant growths in the duodenum are probably much rarer than malignant disease of the biliary passages. When involving the aperture of the common bile-duct it may be impossible to differentiate such from growth actually originating therein. Cancer of the ampulla of Vater has been observed in a few cases. Busson, in his thesis, written in 1890, mentions only 11 cases. They are generally cylindrical epithelioma. In these cases there is practically always a persistent and progressive icterus, the patient

becoming often of a dark-bronze colour. A distinct tumour can only very occasionally be detected. There is generally melæna, pain, and intermittent pyrexia. The fæces are foetid and light-coloured. The course is rapid, a year being the maximum duration. Sometimes a chronic simple ulcer may simulate growth in connection with the bile-duct. It is well to remember, as Dr. Rolleston has shown, that duodenal growths do not invariably lead to biliary obstruction.

Cancer of the Pancreas.—Primary growth of the pancreas may sometimes closely simulate cancer of the gall-bladder. In certain cases it is impossible to differentiate, and in these one has to agree with Rolleston that “at present it must be admitted that a certain diagnosis between primary carcinoma of the bile-ducts and of the head of the pancreas cannot be made.” One of our surgeons has recently operated on a case where the symptoms were typical of cholelithiasis. No calculi nor cancer were found in the gall-bladder, but a dense mass of what appeared to be growth in the head of the pancreas. At present I have not been able to investigate this case further. In cases of primary cancer of the head of the pancreas jaundice is generally present. The gall-bladder is dilated in a large number of the cases. Bard and Pic state that distension is frequent; Herringham found it in 50 per cent. of his collected cases. There is usually epigastric pain, rapid cachexia, and sometimes solid fat in the stools. A tumour can often be detected, but it is deep-seated, fixed, and generally near the median line.

Movable Kidney.—A moving or floating kidney may occasionally closely resemble a solid growth of the gall-bladder. Sometimes exploratory incision may be desirable.—*Medical Chronicle*, November, 1897.

DISEASES OF THE URINARY ORGANS.

61.—ALBUMINURIA.

By Dr. BRANDETH SYMONDS.

Cases of albuminuria could be broadly and conveniently classified into two groups—organic and functional. Among the transient albuminurias, those of acute nephritis were the most frequent, and they often completely disappeared. Most of those subjects of albuminuria applying for life insurance should be classified as functional. These might be subdivided into several varieties:—(1) There was the psychological variety, in

which the albumin was scanty or absent in the morning urine, increased toward noon or early afternoon, and then disappeared for the rest of the day. These persons were usually dyspeptic and anæmic. It was a curious fact that most cases of Bright's disease showed similar diurnal variations in the quantity of albumin in the urine. (2) There was a dietetic variety, supposed to be caused by highly nitrogenous articles of food, such as milk, eggs, &c. He had never seen a case which he felt sure was of this class. (3) There was the muscular variety—that form in which the albuminuria was caused by severe muscular exercise. It came on very soon after the exercise, and lasted usually for days or weeks. It was quite common in these days of bicycle riding and active outdoor sports, and was usually found in persons under 30 years, but might occur in those much older. (4) There was the albuminuria of adolescence, found in persons between the ages of 15 and 23 years. It was quite common among boys, who were sometimes anæmic, but frequently in robust health. In some cases the urine would be concentrated and loaded with urates, but in many it seemed to be normal, except for the presence of albumin. The albuminuria sometimes persisted for a long time without causing any apparent trouble. Dr. Symonds recalled a case beginning in a boy of 17 years. After two years it assumed the muscular type, lasted three years, and then disappeared entirely. The urine had been examined many times since then, but without finding any albumin. In this age of sexual excitement it was not surprising that nucleo-protein should be found in the prostatic portion of the urethra. (5) There was a variety of albuminuria said to be the result of irritation by highly concentrated urine. In this connection it should be remembered that the urine of birds and reptiles was so concentrated as to be almost solid. The persistent excretion of saccharine urine would also cause albuminuria. (6) Another variety of transient albuminuria was that associated with influenza and ordinary colds. It had been quite common in his experience, and usually disappeared within a few days after the acute febrile disturbance had subsided.

Clinical Significance of Transient Albuminuria.—We should regard all albuminuria, whether transient or permanent, as pathological. Albuminuria was no more physiological than a heart murmur, although like the latter it might disappear entirely and permanently. He knew of no way of distinguishing the mild cases with good prognosis from the more serious forms, except by the continued absence of albumin from the urine—in other words, as long as albuminuria persisted there was a possibility of the development of some serious organic mischief. The longer the albuminuria persisted, the greater the probability of its organic origin, and if it lasted for more than

a year the prognosis was doubtful, although not hopeless. A continuous albuminuria was more serious than one which came and went. The presence of renal casts was usually considered as indicative of organic renal disease, but some claimed to have found these casts in other varieties, particularly the muscular form of albuminuria. Again, some observers claimed to be able to distinguish with certainty renal epithelial cells from those of the bladder, but personally he could only express his profound admiration for such remarkable skill. If the specific gravity of the urine continued below 1.015, it was a bad prognostic sign, generally indicating renal insufficiency. These cases were much less amenable to treatment than those having a specific gravity of 1.025 or higher. A hard pulse with an accentuated sound at the closure of the aortic valves was indicative of something more than functional disturbance. Frequent or severe headache in conjunction with albuminuria might also be regarded as of evil omen. The younger the age down to childhood, the more likely was the albuminuria to be functional; if the age was over 40, the cases should be regarded with a suspicion, which increased with every year. The most advanced age at which he had observed albuminuria in a man otherwise healthy was 72 years. In this individual there was no evidence of organic disease. Another bad prognostic sign was an extremely low or an extremely high body weight. A very light weight was often associated with the albuminuria of the young, and in many instances seemed to be due to the albuminuria.

On the other hand, overweight with albuminuria was apt to occur in persons over 30 years of age, and was of graver significance than underweight. A particularly unfavourable combination was albuminuria with the constant moderate use of alcoholics. In still another class albuminuria persisted steadily, although the individual was apparently in good health otherwise. These cases were certainly very puzzling. The amount of albumin was usually very small—a “trace”—and in most of them undoubtedly nucleo-protein had been mistaken for albumin.

The hypothesis had been advanced regarding these cases that an acute nephritis had occurred and passed away, leaving a small but non-progressive lesion in the kidney. The remainder of this organ being sufficient to carry on the work, the general health was not impaired. The theory was plausible, but was unsupported by post-mortem examination. From an insurance standpoint he would not admit that such persons, as a rule, lived as long as others.—*Medical Record, January 29, 1898.*

62.—THE TREATMENT OF SCARLATINAL
NEPHRITIS.

By F. DETLEFSEN, M.D., Chicago.

[The following is taken from Dr. Detlefsen's paper:]

The first requirement is absolute rest in bed in a well-aired room of an equable temperature between 70° and 75° F.; the second, to give quick relief to the engorged kidneys by heightening the excretory function of skin and intestines, and by decreasing the work done by the kidneys, through the institution of a proper diet; the third, to increase the usually greatly diminished quantity of urine. Only to a certain degree can the excretion of the solid constituents of the urine be performed by the skin; the maximum amount of these products excreted with the sweat is from 0.5 to 1.0 per thousand and by the most active perspiration—which is surely not always permissible—not more than one-tenth of the urea appearing in the urine during twenty-four hours can be excreted (*Leube, Handbuch der Spec. Therapic, Bd. vi.*). Moreover, a forcible excretion by means of the sweat glands is not void of danger, because the loss of fluid is too great in comparison to the amount of excreted urea. If this loss is not readily made up for, there will be an accumulation of waste products, which decidedly favours the outbreak of uræmic symptoms. Diaphoresis should therefore be moderate and followed by the ingestion of plentiful fluids. Among the diaphoretic measures I give preference to the warm bath of 98° to 100° F., in which the child is immersed from fifteen to twenty minutes, or for a shorter period if it should be restless or frightened. During the bathing cold compresses are applied to the head. Afterwards the child is put into the warm bed and wrapped into a well-warmed blanket, wherein it remains from one-half to two hours. Friction of the skin may be applied under the blanket. Usually profuse perspiration will result, which, if lacking, may be facilitated by the administration of hot drinks (lemonade), or by the use of Jaborandi leaves, ten gr. made into an infusion with hot water, or by nitrate of pilocarpine, one-twentieth gr. for a child of five years, subcutaneously or by the mouth. The latter drug is tasteless and easily borne by an irritable stomach, but should be given with great caution on account of its depressing effects, and discontinued as soon as the urgent symptoms are relieved. In mild cases one bath a day will be sufficient, but two and even three baths can be given if necessary.

Hot baths (as recommended by Liebermeister) of 95° F. brought to 105° or 106° F. by the gradual addition of hot water,

are not to be recommended, as they relax the cutaneous blood vessels in such a degree as to cause the child to become uneasy and chilled, yes, even collapsed. Œdema of the lungs and eclampsia are a direct contra-indication. Should the warm bath not be tolerated, or for some other reason be unobtainable it will often suffice to wrap the child into a sheet wrung out of hot water and surround it with a warm blanket. To make the heat more constant, warm water bottles wrapped in moist cloths may be placed against the body and legs of the child just outside of the moist sheet. As a rule the children rest comfortably in the wet pack and perspire without difficulty. Other observers recommend the hot-air bath by means of a tent, or by placing the nearly denuded patient, covered by a blanket, on a chair under which steam is generated from a vessel heated by an alcohol lamp, but I never found these appliances necessary, nor do I consider them practicable.

Poultices applied to the region of the kidneys are serviceable in the intervals of bathing. They can be made of pulverised flaxseed, or of one part of mustard powder to twelve of flaxseed, mixed with sufficient water. Laxatives are often necessary; citrate of magnesia or comp. Jalap powder in 10 grain doses, repeated if necessary in two hours. Podophyllin in repeated doses of one-twentieth to one-tenth of a grain, are mostly efficient. Active catharsis is not laudable and should be strictly avoided in feeble children. Sometimes an aperient enema is preferable. Ashby and Wright recommend large enemata of hot water, especially where little or no urine is voided, the urine being passed when the enema is expelled.

Diet.—The feeding on richly nitrogenised food undoubtedly favours the retention of products of nitrogenous waste in the system, which the epithelial cells in their impaired eliminative function are not able to dispose of. The resulting intoxication will lead to an outbreak of that complex of symptoms which we term unræmia. It is, therefore, a clear indication to administer only such food as will furnish the smallest amount of nitrogenous waste and is readily assimilable. An absolute milk diet, which has many advocates, does not meet this indication; milk is too rich in nitrogen, and may, if taken exclusively, disturb digestion greatly; besides a good many older children object to it. A diet containing mostly fat and carbohydrates, as commended for many years by Aufrecht, appears to meet all indications. I am in the habit of prescribing gruel or soups of barley, oatmeal or rice, and other light farinaceous food, cooked fruit, baked apples, fruit jelly, orange juice, and young vegetables, but only a limited amount of diluted milk. After the subsidence of the acute symptoms, I allow some white meat, eggs, and a large quantity of milk.

Last, not least : how can we, with the least injury to the kidneys, increase diuresis? The normal quantity of urine passed by children from two to five years of age is from 450 to 750 cc. in twenty-four hours. In acute nephritis this amount is greatly lessened, often approaching anuria. Our aim should be to remedy this condition speedily, but not forcibly. It would be quite desirable if we could stimulate the amount of urine to about one-half of the normal, and in mild cases the ingestion of a sufficient amount of fluids will accomplish this. In serious cases even the best diuretics are given without result. As to the latter I hardly ever prescribe them. The irritating effect of most diuretics is unquestionable, and I have always failed to see any good therapeutic effects from their use. In ordering drinks for the purpose of allaying thirst, increasing diuresis, and washing away waste material, there is to be taken into consideration the amount of urine passed by the child, and the degree of perspiration and elimination of fluids by the bowels. From this the physician should judge and prescribe as exact as possible the amount of fluid to be taken by the patients in twenty-four hours. Pure spring water and two or three wine glasses of some mineral water per day, like Wildunger or Vichy, also lemonade may be ordered. A mildly diuretic lemonade is much in use, consisting of one drachm of bitartrate of potash dissolved in one pint of boiling water, into which one lemon, cut in small slices, has been put. This is sweetened and taken in twenty-four hours by a child two years old. There can be no doubt that alcoholics are strictly to be avoided, considering their strongly irritating effect upon the kidneys. Even where a weak condition of the heart seems to invite their use, I should prefer other stimulants, of which we have plenty that are less harmful. Acetate of potassium is one of the mildest diuretics. If used at all it can be given in three to five grain doses every three hours. Digitalis has probably no direct effect on the kidneys, and will only do some good where diuresis is insufficient on account of a weakened condition of the heart, and even then it is, in my estimation, not as serviceable as the tincture of strophanthus, which has a quicker effect and is less harmful. Slight hæmaturia may be more relieving than injurious; when obstinate and combined with much anæmia the tincture of chloride of iron (three to five drops every two or three hours) is undoubtedly of great service. Ergot is less reliable, and astringents like tannic acid are obsolete. An uræmic condition requires in sthenic subjects with full, hard pulse, a free evacuation of the bowels by elaterium, or senna infusion, or by an enema of water and vinegar (equal parts—Henoeh); leeches, whose bites are not left to bleed, behind the ears or on the temples; icebag to the head. If the pulse is small and irregular,

hypodermic injections of caffeine and camphor alternately, or the tincture of strophanthus, the latter especially where œdema of the lungs is present, may be used. Pilocarpine and the opiates are contra-indicated in the uræmic state.—*Pædiatrics*, January 15, 1898.

63.—A FORM OF BRIGHT'S DISEASE OCCURRING IN YOUNG WOMEN.

By JOHN ROSE BRADFORD, M.D., F.R.C.P., F.R.S.,
Physician to University College Hospital, &c.

[The details of the six illustrative cases, and some other parts of the paper have been omitted.]

The kidneys in the cases described in this paper did not fall into the above classification; they were small, usually averaging some three ounces apiece, occasionally less. The three most characteristic features apart from the great diminution in renal substance in the series of cases dealt with here are, first, that notwithstanding the thickening of the capsule, this is not unduly adherent to the kidney substance; secondly, the external surface of the kidney is markedly granular; and thirdly, the cortex presents a very mottled appearance. Whatever doubts some may have as to the existence of a particular type of kidney having the characteristics described above, there is no doubt that from a clinical point of view all the cases of this series presented a very striking similarity.

All the cases in this series present a remarkable resemblance to one another clinically. In all these cases the symptoms for which the patient sought treatment were at first comparatively trivial, and in all cases death ensued very rapidly from various forms of acute uræmia. There was little to suggest such a sudden termination when the patients were first seen. In all the cases but one albuminuric retinitis was present, affording another instance of the value of this sign in forming an opinion on the prognosis of renal disease. In all the cases dropsy was absent during their last illness, and in only one of the six was there any history of dropsy. In none of the cases was there a history of scarlet fever, and there is no reason to suppose that the kidney lesion arose from an unrecognised scarlatinal nephritis. In five of the six cases the onset of the illness was so gradual that practically speaking the patient could not date it. The characters of the urine were peculiar, and I think distinctive. A quantity equal or even considerably greater than normal was passed, containing a high percentage of albumen. The specific gravity was low, and the quantities of urea excreted

were moderate, seeing the presence of vomiting, diarrhœa, &c. The fact that the abundant dilute urine contained a large quantity of albumen separates these cases from granular kidney, inasmuch as their history lends no support to the view that they were cases of renal cirrhosis complicated by an intercurrent attack of acute nephritis; and further, as mentioned at the outset, the post-mortem characteristics of the kidney were quite different from those with which one is familiar in the granular kidney. Clinically, these cases were remarkable not only for the fact of the absence of dropsy, but also that they were all terminated by acute uræmia of very sudden onset, and inflammatory complications were not prominent symptoms. The first case is remarkable owing to the profuse hæmaturia that occurred, suggesting when the patient was first seen the diagnosis of malignant disease. The third case was remarkable for the presence of maniacal uræmia with cataleptic phenomena, a condition that is not very rare in acute uræmia. Five of the cases occurred in young women under 25 years of age. All the cases but one had well-marked albuminuric retinitis. All the cases terminated with acute uræmia, and in only one case was there any considerable suppression of urine, and it is possible that acute uræmia is peculiarly related to this form of kidney disease, where the quantity of kidney tissue is greatly diminished. From the considerations of the morbid anatomy of these cases, their clinical course, the peculiar condition of the urine, and their termination by uræmia, I venture the opinion that they form a distinct clinical variety that may be recognised and separated both from the granular kidney on the one hand and so-called chronic Bright's disease (either large white or small white kidney) on the other. Such cases are, however, not very common, as amongst a considerable number of cases of Bright's disease seen in the post-mortem room during the last four years, I have not come across another case that could be included in this series.—*The Practitioner*, April, 1898.

64.—NEPHRITIS DUE TO MALARIA.

The influence of malaria, remarks M. A. F. Plicque in the *Journal des Praticiens* for November 27, in the production of Bright's disease is generally admitted. The importance, however, of this influence has been very variously appreciated, and seems even variable according to the malarial regions. While Rosenstein is of the opinion that paludism causes nearly a quarter—that is 23 per cent.—of the cases of nephritis observed in Dantsic, in other regions this action seems to be exercised in

a more exceptional manner. It appears generally much more powerful in the paludism of temperate and especially damp and cold countries than in that of tropical countries. The mode of action on the kidneys is easily explained. In the acute symptoms each febrile attack causes an increase of work and congestion of the renal filter. Albumen is frequently present after attacks of a certain intensity, and it becomes the rule in patients with malarial affections of long standing, who have an already over-worked kidney, after even slightly intense attacks. It is in similar cases also, and more particularly in certain countries—Madagascar, for instance—that paroxysmal hæmoglobinuria is observed. In addition to the soluble pigments in the blood, the urine is charged with biliary pigments. This form, according to the author, is often followed by nephritis. Often also during the crisis unexpected symptoms of uræmia manifest themselves under the influence of the obstruction of the uriniferous tubules. The epithelium is then infiltrated by pigmentary granulations containing iron. This ferruginous overcharging of the kidney by the decayed blood pigment is also observed in chronic cachexia. All the cells thus infiltrated with iron are blackened by ammonium hydrosulphate. There is shown here a most important and sclerogenous action. The action of Laveran's hæmatozoa and of their toxines has a great influence in the production of these renal lesions.

From an anatomical and clinical point of view, in addition to the acute form of renal obstruction in hæmoglobinuric bilious fever, two principal forms should be distinguished. The first is a diffuse inflammatory process ending in progressive sclerosis of the parenchyma. This diffuse inflammation may even take an acute course, and this acute course belongs rather to the first attacks of an intense malarial poisoning. The chronic course with induration and partial atrophy of the gland belongs rather to the prolonged and tenacious forms of paludism. In the second case the sclerosis is less diffuse; it assumes an annular form connected with the nodular tumefaction of certain portions of the gland. The lesion, instead of being diffuse, may also become localised, in the multiple and independent glandular regions. The course of the lesions may also be either acute or chronic. But even in the acute form, the clinical evolution remains somewhat slower than in diffuse nephritis. Clinically, the malarial forms of nephritis present several peculiarities. The acute form, in addition to the usual symptoms of anasarca and uræmia, is often distinguished by the early appearance of cardiac troubles and of the rhinitis of Bright's disease. Attacks of hæmaturia, of hæmoglobinuria, and of icterus are frequent, and death may occur from gangrenous attacks. The chronic form may be extremely insidious. Sometimes it is not until

after several attacks of anasarca that albuminuria appears. The specific treatment of paludism has, unfortunately, no influence on the renal lesions formed. A change of climate is the only efficacious means when it can be employed in the beginning. M. de Brun, however, says the author, has called attention to the good effects of quinine in the transitory albuminuria which is connected with intermittent attacks.—*The Indian Lancet*, February 1, 1898.

65.—THE URINE IN ACUTE URÆMIA.

By JOHN ROSE BRADFORD, M.D., D.Sc. Lond., F.R.S., F.R.C.P.,
Physician to University College Hospital, &c.

[The following is taken from Dr. Rose Bradford's third Goulstonian lecture :]

In some cases the onset of acute uræmia in cases of chronic renal disease is heralded by a great and sudden diminution in the amount of urine excreted ; but, speaking generally, complete suppression is rare and certainly acute, and rapidly fatal uræmia may occur in this form of Bright's disease whilst the patient is passing quite considerable quantities of urine and urea, as in the case quoted in my last lecture where a patient passed more than thirty-two ounces of urine containing more than twelve grammes of urea during the last twenty-four hours of life. This amount was recovered and an unknown amount of urine was passed unconsciously in the bed in addition. In this patient, at any rate, fatal acute uræmia occurred with little and perhaps with no suppression, and she had marked uræmic phenomena, such as twitchings and epileptiform seizures, at a time when the daily urine contained at least seventeen grammes of urea. Very little food was taken and some of this was rejected by vomiting. Post mortem the total amount of kidney present was less than four ounces. Such a case stands in great contrast to what is seen in the cases of suppression described above and demonstrates how fatal acute uræmia may occur without any obvious suppression, and, in fact, such a case is really the converse of the suppression series. In other cases quantities of urea up to ten grammes were recovered during the last twenty-four hours of life, but exact determinations could not be made owing to the great difficulties experienced in collecting the urine. It is often said that although such uræmic patients may pass quantities of urine not very much less than the normal, yet owing to its dilute character such urine must contain but little solid matter. This is, of course, true, and is made much of by those who consider that uræmia is dependent

upon the retention of the saline constituents of the urine. This view is, in my opinion, untenable in the light of the facts obtained from the consideration of the cases of complete suppression, where, of course, all urinary constituents were retained, and yet ordinary uræmia did not ensue. It is sufficient, then, for our present purpose to admit that although a certain diminution in the amount of urine and of urea excreted is common in acute uræmia, yet this condition may supervene and be fatal without there being any great diminution in the urinary excretion. The urine of uræmia is almost invariably dilute, pale, and of low specific gravity, and I have met with only one exception to this statement. In a case of chronic Bright's disease without dropsy fatal uræmic occurred at a time when the patient was passing a dense, highly coloured urine, with a specific gravity of 1025, and here a serious error in diagnosis resulted, as it was thought that with such a urine the symptoms—*e.g.*, the vomiting, &c.—were of gastric rather than of renal origin. Another important question is the relation of albuminuria to uræmia, and I have notes of three cases where albuminuria was said to be absent at the time of the onset of uræmic symptoms. The absence of albumen from the urine has often been asserted to be an occasional occurrence in cases of ordinary granular kidney, but in none of the three cases alluded to here was the kidney lesion of this type. In two cases the kidney was of the contracted white variety, and in this particular specimen the urine was only examined once, in the other cases repeated examinations were made. In one of the cases alluded to above, where the specific gravity was 1025, there may have been a minute trace of albumen, but even this is doubtful, and in this case the patient had uræmic vomiting for many days, then muscular twitchings developed, and finally coma. Post-mortem the kidneys were rather large, and the cortex was diminished in thickness and microscopically showed signs of considerable disease; the absence of albumen and the high specific gravity led to quite an erroneous diagnosis. The third case was one of a young man admitted for urgent dyspnoea and dry pericarditis. The dyspnoea was uræmic and was followed by other uræmic symptoms. Post mortem the kidneys were found to be very small, somewhat granular, and the urine though dilute, was stated to be free from albumen.

The toxicity of the urine in uræmia is a subject that has attracted more attention abroad than here. I, unfortunately, have only made a very few observations on this point. Such observations would require to be greatly extended, but they tend to show that even in uræmia the urine is still toxic, and that the blood serum is also highly toxic. Although convulsions have not been seen experimentally after ligature of the ureters,

nephrectomy, &c., yet the cerebral cortex is very excitable, as may be shown by experiment. The most striking post-mortem appearance of acute uræmia apart from the frequency of the presence of the small contracted white kidney is the occurrence of well-marked œdema of the lungs quite apart from the presence of general œdema and serous effusions. In the particular class of cases investigated dropsy and serous effusions were conspicuous by their absence. This pulmonary œdema is a well-known accompaniment of uræmic dyspnoea, and is, perhaps, its cause, as it cannot very well be its result, since other varieties of dyspnoea are not accompanied by the well-marked œdema so common in uræmia. This so-called cerebral œdema is a very variable occurrence, but there can be no doubt that sometimes there is a very notable excess of cerebral spinal fluid, and a similar excess was noted in many cases of experimental partial nephrectomy.—*The Lancet*, April 2, 1898.

66.—THE EXAMINATION OF URINE FOR TUBERCLE BACILLI, AND ITS DIAGNOSTIC VALUE.

By R. T. WILLIAMSON, M.D. Lond., B.S., M.R.C.P., Medical Registrar, Manchester Royal Infirmary, &c.

[The following is taken from Dr. Williamson's interesting paper:]

The value of the examination of urine for tubercle bacilli is now generally admitted, but by many it is still regarded as a somewhat difficult proceeding, rarely likely to yield certain results. During the last eight years I have examined the urine for tubercle bacilli in a large number of cases, and though I am prepared to admit that certain results are not so frequently obtained as in the case of sputum examination, yet I have been surprised to find how often the diagnosis of tuberculosis has been definitely settled in the affirmative. This method of examination does not appear to be employed in England quite so frequently as it might be in the diagnosis of diseases of the kidneys and genito-urinary organs.

[As showing the value of examination of the urine for tubercle bacilli, Dr. Williamson mentions half-a-dozen cases in which positive results were always obtained.]

I might add other similar cases were it necessary to do so, but I think all who have paid much attention to the diagnosis of genito-urinary diseases will admit that, whenever pus is present in the urine, and there is doubt as to the cause thereof, the urinary deposit ought to be carefully examined for tubercle bacilli. But in this paper I wish especially to draw attention to

the fact that the examination of the urine for tubercle bacilli may sometimes enable us to diagnose tubercular disease, even when pus, blood, and albumen are absent, and when there are no subjective symptoms of urinary affections. In tubercular disease of the kidneys sometimes small masses of caseous material are found in the urine. The urine may appear as if it contained small crumbs of bread or irregular small fragments of cheese. These are derived from the breaking down of tubercular masses in the kidney. They have long been referred to in many works on medicine, and Sir Grainger Stewart attaches great importance to them in the diagnosis of genito-urinary tuberculosis. The caseous fragments are insoluble in acetic acid, and if they be embedded in celloidin and section be made, an amorphous appearance is presented on microscopical examination. The size of the fragments varies, but they are usually small. One was sent to me for microscopical examination a short time ago, which was about the size of a large pea, and this is the largest I have seen. Now, when these caseous fragments are present in the urine, pus is generally present also, but not always.

Notes have been taken of one instructive case, which show clearly that though the urine may be free from pus, blood, and albumen, and though subjective symptoms of urinary disease may be wanting, yet small caseous fragments can sometimes be detected in the urine; on examination of these, numerous tubercle bacilli may be found, and a diagnosis of tuberculosis is then indicated.

[The notes of the cases are omitted here.]

Of course, sometimes negative results are obtained even after many examinations of the urinary deposit, and yet the disease is shown to be tubercular post-mortem. In one case I examined the urine four times with negative results, and yet the autopsy revealed tubercular disease. But occasionally the repeated examination of the sputum fails to reveal tubercle bacilli, and yet the case is proved to be tubercular afterwards. I am prepared to admit, however, that the examination for tubercle bacilli more frequently fails to yield positive results in tuberculosis of the kidney than in pulmonary tuberculosis. The more practice the examiner has had in the staining of tubercle bacilli the fewer will be the negative results.

Method of Examination.—In books on clinical medicine, methods are often described for treating the urine in order to obtain a sediment suitable for examination. But I have found tubercle bacilli in the urine so frequently, without employing these methods, that I always examine the ordinary deposit directly, and then if unsuccessful I try other methods. I have generally used an ordinary urine glass with a conical bottom, which is first cleaned with a little strong nitric acid to destroy

any organic matter which may be adhering to it. The acid is then all carefully washed away, the urine is passed into the glass, and allowed to stand for some hours (it may be 24 hours), until there is a good deposit. The urine is then carefully poured away (or removed with a pipette), until only about one or two drachms of the deposit remains in the glass. This is poured into a flat dish, and with a pair of forceps the most solid portion is removed. Coverglass preparations are made and stained for tubercle bacilli according to Gabbet's method, just in the same manner as sputum. If the urine should contain no pus, but only caseous fragments, these should be removed with a glass tube, squeezed between two coverglasses, and preparations made and stained in the same way. If no tubercle bacilli be detected, then the following method of obtaining a suitable sediment may be employed :—

Biedert's Method.—The urine is allowed to stand in an ordinary urine glass. The upper part of the fluid is poured away, and 15 ccm. of the urine and sediment at the bottom of the glass are mixed with two tablespoonfuls of water, and 4 to 8 drops (not more!) of caustic soda are added. The mixture is well shaken and then boiled; 4 to 6 tablespoonfuls of water are gradually added until a thin fluid is obtained. This is placed in a urine glass, allowed to stand for two days, and the sediment examined in the ordinary way.

Conclusions.—(1) Whenever pus is present in the urine, and the cause thereof is uncertain, an examination for tubercle bacilli ought to be made. (2) When the urine is free from pus, blood, or albumen, and when subjective urinary symptoms are also absent, small caseous fragments may be sometimes found in the urine. On examination these may be shown to contain tubercle bacilli, and a definite diagnosis can then be given.

As regards the distinction between the tubercle bacillus and the smegma bacillus, Dr. Williamson concludes as follows :—As regards the possibility of mistaking the smegma bacillus for the tubercle bacilli, it may be stated that, in the case of male patients at least, if the deposit from the bottom of the urine glass be examined without any special treatment, and stained according to Gabbett's method, the presence of numerous bacilli, coloured red, will be almost conclusive evidence of tubercular disease. If the bacilli should be arranged in curved clusters, or in chains, then a diagnosis of tubercular disease may be given; but in other cases, and whenever the question of operative treatment has to be considered, all doubt may be solved by the examination of urine withdrawn by the catheter, since this proceeding eliminates the risk of contamination with smegma bacilli.—*Medical Chronicle, January, 1898.*



Surgery.

GENERAL SURGERY AND THERAPEUTICS.

67.—ON THE DIAGNOSIS AND TREATMENT OF THE EARLY STAGES OF OVER-NARCOSIS.

By J. FREDK. W. SILK, M.D.

[The following is from Dr. Silk's paper:]

Under the head of diagnosis I have not included cases of pure asphyxia, such as may result from the presence of a foreign body, blood, &c., nor cases of simple syncope such as occasionally occur immediately before or immediately after the commencement of the inhalation, and obviously have nothing to do with the anæsthetic. Under the head of treatment, too, I have assumed that my readers are cognisant of the *rationale* of the methods recommended.

Diagnosis.—From a clinical standpoint a practical and simple classification of the symptoms of over-narcosis would be as follows, viz. :—(1) Over-stimulation. In ether administrations. Patients usually fat or emphysematous, and especially if much blood is being lost. The earliest indications are rapid, shallow, noisy breathing; quick, feeble pulse; dilated pupils; rapid accumulation of mucus with consequent lividity, which may become very intense. The condition may arise as an after-effect. (2) Symptoms in which cardiac failure is the most prominent feature. Seen most frequently in the earlier stages and in young anæmic people. The earliest indications are pallor; pulse gradually becoming imperceptible; pupils slowly dilating; respirations unaltered at first, but gradually failing. It is not easy to distinguish this condition from one of superficial anæsthesia, in which the symptoms are premonitory of vomiting; in these latter cases, however, the respirations are seldom absolutely abolished, though they may become very faint; the occurrence of retching, too, will satisfy us that we have not to deal with a case of over-narcosis. (3) Symptoms in which respiratory failure is the most prominent symptom. A condition of the mid-stages of anæsthesia. Respirations early affected, feeble and shallow; pallor, and often slight lividity of the ashy-grey type; pulse only failing slowly; pupils gradually dilating. May end in a condition not distinguishable from the following. (4) Sudden Over-narcosis. Simultaneous, or almost

simultaneous, cardiac and respiratory failure; more or less lividity; rapid and extreme dilatation of the pupils; facies hippocratica. From a consideration of the above classification it will be at once apparent that No. 1 is separated sharply from Nos. 2, 3, and 4, and that these latter are closely allied. From a practical point of view, therefore, it seems better to refer to the treatment under only two heads; the three latter conditions being considered as mere varieties of the same state.

Treatment.—It is needless to say, perhaps, that if detected sufficiently early, nothing more may be required than the withdrawal of the anæsthetic, or the diminution of the strength of the vapour. An exception to this general statement may, perhaps, be made in respect to Class 4, which sometimes develops without the slightest warning, and is often irremediable. If over-stimulation has got beyond the stage when simple withdrawal of the anæsthetic has any effect, the first thing to be done is to secure the patency of the air-way by raising the jaw, opening the mouth, pulling forward the tongue, and, better than all, by gently turning the patient on to his right side; of course, too, the mucus must be cleared out of the throat by means of soft sponges. The presence of much lividity is an indication for the use of oxygen. The occasional occurrence of the train of symptoms referred to, as an after-effect (as in a case quoted in the *British Medical Journal* of January 8, 1898), shows how important it is that the nurse or attendant should not leave the bedside for some time after the patient has been put back to bed. Whatever anæsthetic is used, a good general rule to adopt where possible, is to place the patient on his right side during the stage of recovery. The routine to be recommended in all cases which come, or seem likely to come, under any of the heads 2, 3, and 4, is as follows, viz. :—(a) Secure a free air-way by turning the head well to one side, pushing forward the lower jaw, opening the mouth, pulling forward the tongue, passing the finger to the back of the throat and raising the epiglottis and base of the tongue; if necessary, mucus, &c., must be removed with sponges. (b) If there is no response to these measures, the next thing to be done is to press gently but firmly on the chest wall once or twice at a few seconds' interval; maybe it is only the rhythm of respiration that is in abeyance. (c) Gently invert, or partly invert the patient, by drawing the head well over the end of the bed and raising the feet. In children the inversion may be complete by holding them up by the heels. While this is being done a little cold water may be dashed over the face, or the bare chest may be flicked with a wet towel, but this must not be done too energetically. (d) Artificial respiration may now be tried—if possible, by a combination of Sylvester's and Howard's methods—and must be persevered in

for some time. Cases of over-narcosis that are recoverable will usually show indications in that direction under the treatment above suggested ; but should they not do so, and as adjuncts to this treatment, the following plans may be given a trial. It must be distinctly understood, however, that these methods are recommended merely as adjuncts, and are not to be employed in lieu of the routine treatment:—(e) Inhalation of nitrite of amyl, or, better, of oxygen. (f) Hypodermic injections of strychnine and digitaline may be given if the case is diagnosed early, but if the pulse at the wrist has entirely disappeared it cannot be expected that the drugs will be absorbed. The hypodermic use of ether, alcohol, &c., is irrational and of doubtful value. (g) Electrical stimulation of the cardiac area ; of the diaphragm and phrenic nerves ; of the pneumogastric nerves in the neck. (h) Rectal infusions of normal salt solution, or intravenous injections of the same. (i) As a last resource, acu-puncture or galvano-puncture of the heart itself has been recommended ; it has even been suggested that pressure should be applied to the heart through an opening made along the left margin of the ribs, or into the pericardium. I am not aware, however, that this latter suggestion has ever been put into practice.

In conclusion, it must be pointed out that patients who have suffered from over-narcosis are particularly liable to relapse, and should be carefully watched for some hours.—*Treatment*, January 27, 1898.

68.—HOT WATER IN SURGERY.

By Dr. BOYCE.

Boyce (*Atlantic Medical Weekly*, January 1, 1898) says that those of us who are called on in emergency will content ourselves with approximation to a normal salt solution as is furnished by a six-tenths per cent. solution of sodium chloride. A teaspoonful of ordinary table salt is always within reach ; dissolved in a quart of hot water it forms a solution safe even for intravenous injections. Premising, then, that the water shall be freshly boiled and of such a saline density as is most acceptable to the tissues, let us inquire what are its physiological effects. 110° F. is about the maximum temperature at which the whole body can be immersed with comfort, but when heat is to be applied to a limited portion of the skin higher temperatures can be borne. Thus, while 120° F. would perhaps be the limit for the immersion of the hand or foot, 140° F. is not particularly painful when applied to a limited area. At 150° F. the pain becomes quite severe and the erythema produced is of

several minutes' duration. There is, however, no blistering nor evidence of inflammatory reaction. It is a matter of common observation that the deeper tissues of the wound are less sensitive, and will bear a higher temperature than the skin edges. At 159° F. coagulation of proteids and consequent destruction of vital activity is produced. The effect of the application of these high temperatures varies greatly according to the length of the exposure. At first the vessels are entirely relaxed; the part is congested, red, swollen, and soggy; its superficial veins are distended and tortuous, its lymph spaces filled with fluid. In a short time, however, the picture is changed. The part becomes pale, dry, and shrivelled, drained of fluid, both in blood-vessels and lymph space. This reduction of congestion, seen in pathological conditions as well as normal, is perhaps the most important surgical application of moist heat. The gynæcologist makes most extensive use of it with his treatment of turgid pelvic viscera by prolonged hot douching. Quite lately there has been introduced a treatment for gonorrhœa by prolonged irrigation of the urethra with very hot water. The fact that a very small quantity of permanganate of potassium is dissolved in the water probably contributes but little to the success of this method of treatment.

A class of cases in which the value of the hot application has been overlooked is the very common one of joint sprains, particularly those of the ankle. A sprained part immersed in water heated up to the limit of endurance at first throbs and burns most painfully, but soon, in twenty minutes to an hour, its swelling and tenderness lessen, the part becomes more movable, and comfort is restored. The dependent position rendered necessary for immersion is a disadvantage; in the intervals of application the part should be elevated. This method of treatment of a sprain will probably never attain great popularity, for it cannot afford such instantaneous relief of pain and disability as does the method by strapping. The same effects as by the old-fashioned poultice are to-day secured by continued immersion in cases where large sloughs are to be separated. This method prevents obvious inconveniences which restrict its application to the more serious cases. A moist dressing, consisting of antiseptic gauze applied dripping out of very hot water, covered with a heavy layer of flannel to retain heat, and this again with oiled muslin or rubber tissue to retain moisture, constitutes a clean poultice of great value in many minor cases. The author refers to such cases as abscess, cellulitis, lacerated wounds, &c., infected when we first see them, where, in spite of free incision, and with no apparent mechanical obstruction, drainage is yet not free when the tissues about the

wound are swollen, infiltrated, red, and painful. One application of a dressing such as described above will do more for such a case than days of antiseptic cleansing.

Next we come to the use of hot water as a hæmostatic. For this purpose it is applied at a sufficiently high temperature to clot the blood in the vessels back to their trunks and to cover the wound with a peculiar dry glaze. This effect is extremely useful in drying up the field of operation, allowing us to distinguish one tissue from another where a moment before was one uniform surface, red and oozing. An extended series of cases where the tip of the finger had been sliced off with a sharp knife, leaving the exquisitely tender pulp exposed in the wound and spouting blood, enabled the author to demonstrate the superiority of hot water to other agents, such as acetanilid, peroxide of hydrogen, alum, &c., which are said to control capillary hemorrhage without interfering with healing; and the application of heat in this manner seemed to promote in no small degree aseptic healing, which in this case was by scabbing. So manifest was this effect as to suggest the possibility of sterilising wounds by moist heat. We know that the ordinary pyogenic bacteria are not extremely tenacious of life, that they are destroyed, when moist, at a temperature not much above 140° F., while the tissues will stand without disintegration a temperature of 150° or more. So it seems probable that by the application of such a degree of heat as is within the limits of safety we may at least exert an inhibiting effect on the activity of the pyogenic organisms sufficient to give the tissues the advantage in that struggle upon which clinical asepsis always depends.—*From an abstract in the Therapeutic Gazette, February 15, 1898.*

69.—CASES IN WHICH LIFE IS ENDANGERED BY LARGE HEMORRHAGE, AND THEIR TREATMENT.

By HOWARD MARSH, F.R.C.S.

[Parts of Mr. Marsh's paper are omitted here.]

Hemorrhage so severe as to threaten the life of a patient may occur as the result either of a surgical operation, or of an injury, such as extensive laceration of a limb or a wound, gunshot or otherwise, by which large blood-vessels are divided. As to profuse hemorrhage in connection with surgical operations. The cases in which it is most likely to occur, if the proper steps are not taken to prevent it, are amputation at the shoulder and the hip joints. I need scarcely remark that in operations in

which this risk is present, the obvious duty of the operator is to make all his preparations with care and forethought, and to secure a full amount of the best assistance within his reach.

[Mr. Marsh describes the methods by which hemorrhage is to be controlled in the above-named amputation.]

Taking those cases in which, whether as a result of an accident or an operation, the patient's life is in imminent danger from severe hemorrhage, what treatment should be employed? First let me remind you of the symptoms which indicate that the patient's condition has become critical. These symptoms are extreme pallor, best observed in the mucous membranes, which normally are red—in the lips and tongue. These parts now become quite bloodless. The surface is bathed in a cold sweat; the pulse is small, soft, and rapid, 130 to 160 or quicker still, and fluttering, so that it cannot be counted; respiration is sighing; the patient is restless, and complains of noises in the ears, and, although it is broad daylight, that he cannot see; his mind wanders, and he becomes incoherent; convulsions may occur, and the patient may pass into a condition of profound and fatal syncope. The crisis is one of supreme moment to the patient, and of grave responsibility to the surgeon. It is truly a case of life or death. Let the surgeon hesitate or fail to use the proper means, and the patient will rapidly sink. Let death be averted for six or twelve hours, and in two or three days the patient may be convalescent with many years of vigorous life before him. The treatment of cases of this kind consists (*a*) in general measures, such as artificial warmth by hot bottles and sufficient warm clothing of a light description; raising the foot of the bed, and removing the pillows, so that the head is low; and bandaging the limbs, so that all the remaining blood may be confined to the brain, heart and lungs. (*b*) In the use of subcutaneous injections of ether or strychnia. Both these agents act rapidly on the heart, but of the two strychnia is much the more useful, as its effect is much more prolonged. *Liquor strychninæ* ℞ij (equal to $\frac{1}{32}$ of a grain) may be injected at intervals of two or three hours. Strychnia under these circumstances has a very strongly beneficial result upon the action of the heart. (*c*) In the introduction of some appropriate fluid into the general circulation.

First, a few words about blood-transfusion. This is carried out by either the immediate or arm-to-arm method, or indirectly; blood being drawn from the giver in a vessel, in which it can be kept at a suitable temperature, and from which, when it has been defibrinated, it can be introduced into one of the veins at the elbow or some other part. As to this proceeding, the time has come for saying that it has been finally superseded. It has in the first place always been open to the following serious

objections. It is an operation which, in unfamiliar hands, is by no means free from danger, and it involves difficulties which only those who have had previous experience of it are likely to overcome: it requires a special apparatus, which is little likely to be fit for use when it is wanted: and the necessary amount of blood cannot always be obtained; while, in the second place, a method which is at the same time much simpler and much more efficacious has been introduced. The method consists of the infusion of a saline solution in the form of a drachm of common salt in a pint of sterilised water. It can be readily carried out by the aid of a glass funnel and a sterilised india-rubber tube fitted with a metal nozzle, which costs only two or three shillings, and is ready for use as soon as it has been boiled. Two or three pints of the solution at a temperature of 105° in the funnel are slowly introduced into one of the veins at the bend of the elbow. It is a piece of great good fortune alike to the patient and to the surgeon that so troublesome and so difficult a proceeding as blood-transfusion need no longer be attempted, and that we have at our disposal a method which is easily used, and which affords very valuable results. It seems clear that the infusion of a saline solution is now to be regarded as a proceeding by which, if it is not too long delayed, many lives that must otherwise be lost can be saved.

[Two illustrative cases are given.]

No reasonable doubt can be entertained that the life of patients may be saved by the introduction of the saline solution; and such cases are steadily becoming more numerous in practice at the present day. Nor will the service which the saline solution renders be limited to civil practice. In military surgery, where cases requiring it are numerous, a method so free from elaborate detail, and for which the materials are so readily available, may be expected to be freely employed. Several cases in civil practice have, indeed, already occurred which indicate that in many instances in which soldiers in the field have met with injuries requiring amputation or some other operative interference, preliminary infusion will be resorted to with highly beneficial effects. In cases of less gravity, or where infusion cannot at once be employed, a pint of the saline solution to which an ounce of brandy has been added should be introduced into the rectum. In some cases the saline solution has been injected into the subcutaneous tissue of the thoracic wall or some other part; while some authorities recommend that in abdominal operations one or two pints of the solution at a temperature of 104° should, just before the wound is closed, be injected into the cavity of the peritoneum. Whatever the method employed, there seems good reason to hope that the introduction of saline solution into the systemic circulation

will, by exercising a beneficial effect upon the blood-pressure, afford excellent results.—*St. Bartholomew's Hospital Journal*, April, 1898.

70.—ANEURISM OF THE LEFT POPLITEAL ARTERY TREATED BY EXCISION.

By H. LITTLEWOOD, F.R.C.S., Surgeon to the Leeds Infirmary.

[From Mr. Littlewood's paper.]

Extirpation of the sac of an aneurism, when possible, is probably the most satisfactory method of treatment of this serious disease of an artery, and the results are superior to those following any other method of treatment. P. Delbet collected statistics on the subject, and showed that extirpation gave a mortality of 11·32 per cent., while the death-rate from ligature was 18·95 per cent., though it must be remembered that in most of the cases in which extirpation has been applied the aneurism has been traumatic. It might have been thought that gangrene would have been a more frequent result of this method than of ligature, but it is decidedly less common after extirpation, and the probable explanation is that in ligature the artery is occluded at two points—namely, at the aneurism and at the point at which the vessel is tied, while in extirpation the continuity of the artery is destroyed only at one spot—namely, where the aneurism is situated. Of course the method of extirpation has its limits, but at present it is hardly possible to define them, as it has not been applied in a very large number of idiopathic aneurisms. Mr. Littlewood then relates a case of popliteal aneurism in a man aged 25, and describes the operation :—

An operation was performed on June 15. The patient was placed in the prone position, and ether was administered. An Esmarch's tourniquet having been placed on the upper part of the thigh, an incision about eight inches long was made over the whole length of the popliteal space, beginning at its upper limit on the inner side and continued downwards along the middle of the ham. The superficial and deep fasciæ were divided, and the internal popliteal nerve was drawn outwards by means of a retractor. The muscles forming the boundaries of the space were then separated, and were held aside by means of large retractors so as to expose fully the aneurismal sac. An attempt to completely dissect out the sac failed owing to the thinness of its walls, and in one part it appeared to have become diffuse. The sac was accordingly laid freely open, and its contents were turned out. The artery above the sac was then cleared for a short distance, ligatured with moderately fine silk, and divided near the sac. The aneurismal part was then dissected out from above downwards and a portion of the vessel below the aneurism was exposed, ligatured, and divided. The aneurismal portion of the vessel and the greater part of the sac were now removed. All clots and any

remaining shreds of the sac were then cleared out of the space, and the parts were washed out with some hot solution of biniodide of mercury, and made thoroughly dry. The wound was closed with silk-worm gut sutures, without any drainage, and was dressed with iodoform and cyanide gauze. The whole limb was enveloped in a thick layer of cotton wool, and placed between hot bottles. Recovery was uninterrupted. After the operation the pain in the leg entirely disappeared, and the patient slept well without morphia being administered. On the third day pulsation could be felt in the posterior tibial artery. On the tenth day the wound was dressed, and was found to have healed throughout; the alternate stitches were removed, and two days later the remainder. On the fourteenth day the patient got up, and he left the hospital on July 3, eighteen days after the operation. He was shown at the meeting of the Leeds and West Riding Medico-Chirurgical Society on Nov. 5, and was then quite well, having returned to his work for some weeks. The portion of the vessel removed measured about two inches in length. The coats of the vessel where divided looked healthy. The aneurism appeared to be fusiform, becoming sacculated in its posterior half. The opening into the sac measured about an inch in the vertical and half an inch in the transverse direction. In size the aneurism was about as large as a goose's egg. The sac was partly filled with dark soft clot; the walls were very thin, and in one part appeared to have given way.

I am recording this case of popliteal aneurism as additional evidence in favour of treating aneurism in accessible regions by the old operation somewhat modified—*i.e.*, the removal of the diseased part—in addition to laying open the sac and tying the vessel above and below. In *The Lancet* of November 17, 1894, there is a paper of mine on this subject with a record of two cases, one of the superficial femoral and the other of the popliteal. Reference is made in this paper to a case of traumatic aneurism of the ulnar artery treated in February, 1891, by completely dissecting out the sac. Since then I have removed three others:—(1) Aneurism of the radial artery at the back of the wrist; (2) diffuse popliteal aneurism; and (3) the present case. I feel convinced that in the majority of cases this method of treatment is the most satisfactory to adopt. In the case recorded above I soon discovered that it was impossible to remove the sac intact, so without any delay I opened it and turned out the clot. This at once enabled me to find the artery at the upper part of the sac and facilitated its separation, ligation, and division. Having done this it was not at all difficult to separate the sac from the surrounding structures and to remove it after ligaturing and dividing the vessel below. In my former cases I feel I have wasted time in attempting to remove the sac intact. Except in the two cases of traumatic aneurism I have never succeeded. I consider that the attempt causes delay and increases the difficulty of the operation. I now think it better to follow Guattani and lay open the sac before attempting to ligature the vessel. It has been urged by some surgeons that it would be better to follow his method

more closely and be content after ligaturing the vessel above and below not to remove the aneurismal portion. It appears to me that the removal does not make the operation more difficult, and there are obvious advantages in getting rid of it. In *The Lancet* review of the work of the year 1894 my cases are referred to, and this method of excision of the sac is attributed to Antyllus. Apparently this is not correct. Antyllus ligatured the vessel above and below the sac; then opened it and turned out the clots, but did not excise it.—*The Lancet*, December 18, 1897.

71.—REMARKS ON THE TREATMENT OF SENILE GANGRENE.

By THOMAS JONES, F.R.C.S., Professor of Surgery, Owens College; Surgeon, Manchester Royal Infirmary.

[The following is from Mr. Jones' paper:]

It is my intention to discuss the treatment, about which there is still a considerable difference of opinion. For while some rely mainly on the expectant plan, others advocate removal of the limb which is the seat of a gangrenous process. We are all familiar with the appearances presented by such cases. Are there any premonitory symptoms which indicate the imminence of senile gangrene, and serve as a warning of its probable oncoming? In the cases which have come under my observation, coldness of the feet has been the most common symptom. For many months before the gangrene has actually declared itself the patients have experienced unusual difficulty in keeping up the circulation in their lower extremities. Perverted sensations have also been observed, especially crampy pains in the calf. Should any or all of these symptoms be present, suitable treatment must be at once adopted in order, if possible, to ward off the disease which is impending. Everything calculated to further depress the vitality of the tissues is to be avoided. The insufficiency of the blood supply is to be met by the artificial maintenance of the local temperature, and any breach of surface is to have careful attention.

When the gangrenous process has actually set in we must observe all precautions calculated to prevent septic absorption, and we are to take means to meet the exhausting effects sure to result from loss of sleep and frequent, and often severe, attacks of pain. The treatment can best be considered under the two heads: local, general. I have purposely placed the local first, as it is, in my opinion, of even greater importance than the general. The prompt adoption of suitable local treatment may result in such limitation of the gangrenous process as to bring the disease

within the sphere of a curable condition. The skin of the foot and leg are to be thoroughly cleaned; this can best be done in the way adopted when we are about to submit a part to operation. The immediate vicinity of the dead part is to be freely dusted with iodoform, covered with sublimate or salicylic wool, the whole being kept in position by a flannel bandage, carefully, evenly, and not too tightly applied. Should there exist a small ulcerated surface or a patch of necrotic tissue, with some discharge, the dressings applied to this part may have to be renewed daily or on alternate days. With the application of some such dressing as I have indicated and the observance of rest, an improvement in the local appearances is to be expected. The case will, of necessity, cause a good deal of anxiety, and any change for the better will be slow and possibly fitful. You will have noticed that no mention has been made of the use of artificial heat in the form of poultices, fomentations, &c. They should be absolutely discarded as not only useless but positively mischievous. Let me also warn you against another method of treatment which I find still in use, namely, placing the limb which is threatened with senile gangrene near a fire or plunging it occasionally into hot water; both are objectionable, as they may seriously embarrass the circulation.

Pain, which is often of a distressing character, situated not only at the line of demarcation but also in the calf of the leg, has to be met by the administration of opium. Locally, to check the pain at the junction of the dead and living tissues, I have found the application of a powder composed of boric acid, subnitrate of bismuth, and hydrochlorate of morphia to act very beneficially. In some cases the pain is so severe and persistent that the only remedy is removal of the limb. It is recommended by some that tags of dead tissue should be removed. This practice must be condemned, as the slight irritation arising therefrom may prove to be prejudicial, and in some cases has actually led to an extension of the gangrenous process, which had become limited. We may conclude, therefore, that there are cases, but, unfortunately, they are very much in the minority, where the efforts of nature are sufficient to cure the disease. Those cases, for example, where the gangrene is very limited, involving, perhaps, little more than skin, and in which the necrotic changes are attended with but a slight amount of constitutional disturbance, the patient's strength holding out well and showing no signs of failing. The main element in the treatment is patience while the dead part is detached and the surface heals by granulation.

I now approach the most important part of the subject, the question of amputation in senile gangrene when the disease is advancing. Those who have had any experience in the matter

are agreed that amputations anywhere in the vicinity of the gangrenous part are useless. The results are disastrous. Frequently this treatment has led to the appearance of gangrene in the stump, or a wound has been left which showed few signs of repair, or taken a very unusual time to cicatrise. This applies to all amputations of the foot when gangrene has attacked the toes. The vitality of the tissues cut through is so imperfect that their power of resistance to the entrance of septic micro-organisms is exceedingly small; septic inflammation ending in necrotic changes are almost certain to follow. We may lay it down as an absolute rule that for gangrene of the toes amputation of the foot should not be performed. Nor is amputation through the leg attended with any better results. Moreover, it is liable to the same objection—the almost certain re-appearance of gangrene in the stump. You may take it that this applies to 90 per cent. of the cases. Kuster amputated in 13 cases below the knee; 2 healed, 2 died of gangrene, and 9 were re-amputated. These considerations show very clearly that we are limited in our choice; amputation must be done through the lower third of the thigh, or in some favourable and somewhat exceptional cases through the knee-joint. If the conditions permitted the latter would undoubtedly be the operation chosen, for, if the method of Stephen Smith be adopted, the tissues severed are of the simplest kind, and the parts are disturbed very little. The operation at this level is contra-indicated in cases where no pulsation can be detected in the popliteal, for if the small additional blood supply furnished by the smaller arteries about the knee be lost, the probability of gangrene is very great. It seems to me, therefore, that when the choice of a high amputation is being considered, the state of the arteries, more particularly as regards patency, must have a determining influence. In cases of doubt the best practice would be to amputate through the lower part of the thigh. This view is borne out by some cases mentioned by Mr. G. Bellingham Smith in a paper on senile gangrene, published in the Guy's Hospital Report for 1894. The only cases in which primary union occurred were those in which amputation (for senile gangrene) was performed above the knee. The frequency of extreme calcareous degeneration of the femoral and popliteal arteries, and of their occlusion, is a very strong argument in favour of the high amputation. In no case was there trouble with secondary hemorrhage. Nor must it be supposed that the high operation is attended with a very great mortality. Considering the condition of the patient, the state of his arteries, 5 deaths in 14 amputations is by no means a bad record. It will, I venture to think, compare most favourably with other methods of treatment adopted in senile gangrene.

There are cases where amputation is not to be thought of ; those, for example, in which the general condition of the patient is so bad from sepsis that there is a certainty of a fatal issue to the operation. The presence of sugar or albumen, either separately or in combination, in the urine, will add enormously to the risks. And here let me offer you, in dealing with senile gangrene, the following rules for your guidance :—(1) When the gangrene is limited to one or two toes, and the patient's condition is, and remains, satisfactory, be content with the expectant plan of treatment, taking precautions to lessen or prevent the effects of local septic infection. (2) When, however, the gangrene has reached the metatarsus, be prepared to carry out the high amputation—that is, amputation above the knee, or, in rare and favourable cases, through the knee-joint itself.—*The Medical Chronicle, January, 1898.*

72.—PERFORATING WOUNDS OF THE KNEE-JOINT.

By Mr. F. C. WALLIS.

The author detailed three cases in which the knee-joint had been perforated. *Case 1.*—A man, aged 23, whilst getting over some iron railings, slipped, and one of the spikes made an oblique wound in his left knee-joint. The joint became distended with blood, and there were obvious signs of air in the joint. Twenty-four hours later, as the temperature was rising and the pain increasing, the joint was opened up and a large ragged tear was found in the capsular ligament. The joint was washed out and cleared of all blood-clot. The capsule was sewn up and skin wound completely closed. No drainage. Aseptic recovery, with, ultimately, free joint movement. *Case 2.*—A girl, aged 13, was admitted to the hospital with a perforating wound of the left knee-joint, made by a pair of scissors, half an inch above the patella. Temperature on admission 102·2°. Joint distended and painful. As these increased the wound was opened up forty-eight hours later. The synovial fluid was turbid and large flakes of lymph escaped. Free irrigation with 1-3,000 perchloride, and the joint was closed up without drainage. Nine days later the wound was re-opened on account of the pain and temperature and the joint was drained. Patient made a grand recovery but walked too soon, and a certain amount of genu valgum resulted. This was treated with a Thomas's knee-joint splint. *Case 3.*—A boy, aged 11, was admitted with a punctured knife wound, of fourteen days' standing, on the outer and upper side of the left knee-joint, which was markedly

distended. The joint was swollen and the skin red. Semi-purulent fluid escaped from the wound. The joint was opened and four ounces of semi-purulent fluid were let out. A corresponding incision was made on the opposite side and the joint thoroughly irrigated with 1-3,000 perchloride, after which the wounds were closed up without drainage. Three days later the wounds had to be re-opened, and pus escaped freely. As the joint did not drain well a number of drainage tubes were inserted in different places and continuous irrigation was carried out. Nine weeks later all the tubes were out. Four months after the operation patient was discharged in a Thomas knee-joint splint, with fibrous ankylosis of knee-joint. He ultimately had excision done on account of marked flexion of the knee-joint. Mr. Wallis remarked that only those cases recovered (that is, ran an aseptic course) which were immediately treated, and he quoted various cases in illustration thereof. On the whole, he thought the results were better without drainage. Mr. Wallis defended his treatment of Cases 2 and 3, where the joint was sewn up and had to be re-opened, by quoting cases where he had opened joints for septic synovitis, and after thorough irrigation had sewn up the wounds, which had healed up without difficulty. The treatment of suppurating joints was next discussed, and it was shown that even prolonged suppuration did not necessarily mean ankylosis if certain lines of treatment were carried out.

In the discussion Mr. Howard Marsh observed that great improvements had been effected of late years in the treatment of this class of cases, and many which in years gone by would have been fatal or would have ended in amputation or ankylosis now rapidly recovered complete use of the joint. He pointed out that a close parallel could be drawn between the synovial membrane and the peritoneum. The peritoneum was now looked upon as the surgeon's friend, and the synovial membrane might now be placed in that category. He related a case of primary sarcoma of the synovial membrane with subsequent recurrence. In the treatment of these conditions he had opened the knee-joint on four different occasions and each time it did well. He also referred to the case of a little girl with suppurative tuberculous disease of the knee-joint which was treated on the same principles as in any other part of the body, and the child had recovered with a good joint, and was now able to walk. He then gave brief notes of two cases to illustrate the radical results now obtained in acute suppurative arthritis. A boy, aged eight, was run over, and the joint suppurated. It was freely incised and irrigated, and the boy had recovered with a fair range of movement. Another boy, in whom a nail had been thrust into the knee-joint, came in with acute septic

synovitis. That lad also recovered with an almost perfectly movable joint. The treatment consisted in fixation, very free opening, free irrigation, and such drainage as seemed necessary. Under this treatment a fairly large proportion of these cases would end satisfactorily. He also referred to a case in which the knee-joint was cut right open. The wound was closed and put up in a splint and the patient recovered with a perfectly movable joint. A further case occurred during the Chitral campaign, where an officer had received a bullet wound of the joint. It was summarily dressed on the field, and the patient lay forty days on his back, yet actually, as he himself had been enabled to ascertain, the joint movement was almost perfect.

Mr. Barker agreed that drainage was too freely resorted to, and he believed that many of these cases could be brought to a satisfactory conclusion without any drainage at all, or at most by a little strand of gauze. In the last twenty or thirty cases of operation on the knee-joint he had only employed drainage once or twice, and in the last five or six cases no drainage had been found necessary. He admitted, however, that in septic cases drainage might be required. He deprecated irrigation of the joint with irritating fluids, preferring simple boiled water. The action of irrigations was only mechanical.

Mr. Watson Cheyne said he had long protested against the practice of washing out septic cavities, and the antiseptics employed could only do harm. His own practice was to open up freely, sponging the soft parts leading into the joint with carbolic acid, and to drain for twenty-four hours, when, if things were going on well, the drain might be removed.

Mr. Wallis, in reply, mentioned that in a case in which a sponge had inadvertently been left inside the joint the only thing that seemed to do any good was pure carbolic acid.—*Medical Press, March 16, 1898.*

73.—THE TREATMENT OF TUBERCULOUS JOINTS BY THE INJECTION OF IODOFORM.

By W. H. BROWN, F.R.C.S. I., Surgeon to the Leeds General Infirmary.

The treatment of tuberculous joints by the injection of iodoform is still upon its trial, but promises at any rate to lessen the number of cases calling for more radical interference. The only special instrument required is a syringe, thus men in general practice can undertake the treatment of their own cases without being burdened with the purchase of costly instruments, and many patients will be treated at home who formerly were sent to hospital for operation. It may seem too early to say

how far the injection of iodoform will be adopted, but it is none too early for those who are trying to work out the problem of how best to deal with tuberculous joint disease, to put upon record the result of such work so soon as they have arrived at a fair number of cases yielding similar results. The observations I offer for the consideration of those who, like myself, have to deal with tubercular joint disease continually, are based upon the results of the treatment of 30 cases. (1) Ages of the patients range between 2 years and 45 years, the majority being young children under 8. (2) The quantity of iodoform used—10 grains under 8 years of age, 15 grains in other cases. (3) The number of injections varied very much, as many as 20 in one or two cases, in some as few as three. (4) The stage of disease: only those cases were treated that showed well-marked signs, in several instances suppuration had occurred. (5) Constitutional and local disturbance: a rise of temperature occurred after each injection, lasting three or four days, and the joints were more tender to the touch than before the injection. (6) Toxic effects: in no instance were there symptoms of gastric irritation. (7) Iodoform was present in the urine within twenty-four hours after the injection; this did not occasion any noticeable discomfort. (8) The joints treated were hip, knee, elbow, and shoulder. (9) An anæsthetic was only necessary on one occasion. (10) In three of the worst cases I had subsequently to excise. (11) It is advisable to keep the patient at rest until constitutional disturbance has passed off. (12) In the case of the knee, elbow, and hip, some fixed apparatus should be applied between the injections. (13) Interval between injections is usually a week. As to results of treatment—up to the present, with the exception of the three mentioned, they are satisfactory, some of course more so than others. The use of the word cure involves a grave responsibility, and I do not yet claim cure in the strictest sense, but several of the cases are apparently well, and in the remainder the progress of the disease has been arrested. It is certain that, as time goes on, failures in this as in every other form of treatment will arise, and some of the very cases which I now regard as well may relapse. Failures, however, are not absolutely unknown, although the records of failure are not easily found. It may be found safe to use larger quantities of the drug, and this would lessen the number of injections required, and might possibly shorten the duration of the treatment. Much may, I think, be expected from the continued injection of iodoform into tubercular cavities wherever situated, and whilst the simplicity of the operation may deprive the surgeon of the chance of performing an arthrectomy, the gain to the patient cannot be over-estimated.—*Quarterly Medical Journal, January, 1898.*

74.—FORCIBLE STRAIGHTENING OF SPINAL CURVATURES.

[The following is Mr. J. E. Platt's summary of Messrs. Tubby and Jones, Mr. Murray and Mr. Noble Smith's papers on this subject. All the papers appeared in the *British Medical Journal* except Mr. Tubby's second paper, which was in the *Practitioner*, January, 1898.]

Mr. Tubby and Mr. R. Jones communicated to the Clinical Society of London, on November 12, 1897, a series of twenty-five cases of Pott's curvature, which they had treated by forcible straightening. They declined to accept the conclusion that deformity is inevitable after Pott's disease. Cases of angular curvature were divided into three classes :—(1) Those in which there is little or no ankylosis, and in which reduction is easily effected ; (2) those in which more union has occurred, and which require extension for one to three minutes with considerable manual pressure for the straightening of the spine ; (3) those with firm ankylosis. The first and second classes of cases were regarded as suitable for this method of treatment. The advantages claimed for the treatment were :—(1) The improved appearance of the patient ; (2) the greater ease of fixation of a straight spine over a crooked one ; and (3) the avoidance of profound alterations in the chest walls with cramping and displacement of the thoracic and abdominal viscera. The probable dangers of the operation were stated to be :—(1) Paraplegia ; this had not occurred in any of the authors' cases, but five cases with paralysis before the straightening, began to improve immediately afterwards. (2) Dissemination of tubercle ; the danger of this has been exaggerated. (3) Formation of abscess ; of this there is no case. One of the twenty-five cases died six days after the operation from *tabes mesenterica*. The after-treatment must be continued for two or three years. The following were classed as unsuitable cases :—(1) Old-standing curves with ankylosis ; (2) cases with tubercular disease elsewhere ; (3) cervical caries ; and (4) cases associated with abscess. Amongst the suitable cases were included :—(1) Young subjects with disease of short duration and without firm ankylosis ; (2) when the disease is locally active ; (3) when no visceral complications are present ; (4) when paraplegia is unrelieved by ordinary treatment.

In the discussion which followed this paper, Dr. Calot spoke very highly of the operation. He said that it had been performed hundreds of times with a mortality of not more than 1 per cent. In cases associated with ankylosis of the laminae he recommended a preliminary osteotomy of the latter a fortnight before the rectification of the deformity. At the adjourned

discussion on November 26, Dr. Rédard, of Paris, declared himself a warm partisan of this treatment; he had adopted it in forty cases; he considered that only those cases should be subjected to the treatment where slight traction is sufficient; drawings of apparatus as used by him were exhibited. Mr. Watson Cheyne considered that the subject was hardly ripe for discussion; he pointed out that in these cases one has to deal not only with a deformity, but also with a disease; he did not think the treatment would survive, and stated that sufficient cases had already been operated upon to enable a definite opinion of the value of the operation to be expressed after they have been watched for a couple of years; in the meantime, "let them avoid further operations, for the patients' good and for the good reputation of themselves and of surgery." Most of the other surgeons who took part in the discussion expressed similar views.

Mr. Murray, of Liverpool, recorded two cases which proved fatal two months and three months after the operation respectively. In the first case death occurred from pneumonia; there was no general tuberculosis, and he did not consider that death was in any way attributable to the operation. In the second case death took place from general tuberculosis. Neither case presented the slightest evidence of repair of the gap in the spinal column.

In the *Practitioner* for January, 1898, Mr. Tubby states that he and Mr. Robert Jones have now operated upon sixty cases. In this paper he extends the list of unsuitable cases; in addition to those mentioned above, he enumerates:—(1) Cases in which much wasting is present; (2) cases with cough or other respiratory trouble; (3) cases with considerable alteration in the shape of the chest; and (4) patients over 20 years of age. In this paper the methods of procedure are described at some length, and three illustrations are given. The literature of the subject is also referred to. So far as we know this method of treatment has not been practised in Manchester, the majority if not all of the surgeons of the district regarding it with disfavour. A well-known Manchester surgeon recently referred to the operation as a "surgical crime." Forcible straightening of the spine appears to us to be diametrically opposed to the lessons one should learn from the pathological anatomy of spinal caries. By making a large gap in the front of the spinal column one may bring to an end the processes of repair which are necessary for the cure of the disease, and this arrest would appear to have taken place in the two fatal cases recorded by Mr. Murray. The advantages claimed for the operation, even by its most enthusiastic supporters, appear to us to be of but slight value. We agree with Mr. Watson Cheyne that no

further cases should be subjected to the treatment until a considerable lapse of time has demonstrated good results in those already operated upon.

Mr. Noble Smith states that whatever may be the risks of forcible straightening in spinal caries, they are absent in cases of scoliosis. He records a case (with illustrations) in which he carried out this treatment with success. The force was applied on two occasions, and in the interval a light apparatus was used. Mr. Bernard Roth and Mr. Barwell have since written to the *British Medical Journal* stating that Mr. Smith claims much more improvement from the operation than the photographs of his case warrant.—*Medical Chronicle, January, 1898.*

75.—ON OPERATION IN SOME CASES OF TERTIARY SYPHILIS.

By W. WATSON CHEYNE, F.R.C.S., Surgeon to King's College Hospital, London, &c.

W. Watson Cheyne, in the *British Medical Journal* of November 27, 1897, makes some interesting observations on this subject dictated from clinical experience. He says we all know that cases of tertiary syphilis sometimes occur which are extremely obstinate to treatment by iodides and mercury, in however large doses the former are administered; and under suitable circumstances a cure may be effected by operative intervention. In support of this proposition Cheyne cites the two following cases:—

(1) Some ten years ago a man, about 40 years of age, consulted him on account of an obstinate syphilitic ulceration of the cheek. The patient had acquired bad syphilis some years before, and for two or three years had suffered from a serpiginous ulceration of the cheek in front of the ear which was of a most obstinate character. He had been under careful antisyphilitic treatment since its first appearance by men of the highest authority, and although the condition improved under treatment, no sooner was it left off than the trouble re-appeared. As the writer could not suggest anything better in the way of medicinal treatment, and as the trouble was limited, excision of the diseased tissue was performed, and the gap filled up by a plastic operation. The wound healed, and the disease had not recurred some years later when the author last saw the patient. The tissue was examined microscopically, and simply showed inflammatory tissue; no trace of rodent ulcer or tuberculosis; but from the history and clinical characters there could be no doubt as to its syphilitic nature.

(2) The second case was that of a married woman, aged 44, who was admitted to the hospital on April 20, 1896, with symmetrical ulcerated patches on the extensor surfaces of both forearms. On the extensor surface of each forearm was an extensive red, raised, brawny patch, practically symmetrical on both sides, extending from about three inches

below the olecranon to about two inches above the wrist, and almost reaching the sides of the forearm. The surface of the patch was covered with numerous ulcers and punched-out holes varying from a shilling to a florin in size, some circular, but many of them having run together into irregular forms. The patches were very tender. The case was shown to several authorities, who, with one exception (who thought it tuberculous), pronounced it to be tertiary syphilis. There was no thin undermined skin around the ulcers, as is so characteristic of tuberculous disease. Iodides and mercury had a distinctly beneficial effect. Microscopical examination failed to show any tubercles, and animals inoculated with portions of the tissue remained well, and did not develop tuberculosis. As the patient was incapacitated from work, and as it had not healed under antisyphilitic treatment, the writer determined to excise the patch on one forearm in the first instance. This was done on the right side on April 25, 1896. An incision being made all around the affected part and about half an inch beyond it, it was raised with the fat and fascia beneath, and removed. The extensor muscles were left exposed over the whole extent of the wound, which was then completely covered by skin grafts after Thiersch's method. All the grafts took, and the patient left the hospital on May 16 with the arm well. When she was admitted she was at once put on large doses of iodide of potassium, combined with drachm doses of liquor hydrarg. perchlor., and emplastrum hydrargyri was constantly applied to the left arm. Under this treatment the left arm improved markedly, the brawny swelling went down, and most of the ulcers healed. After her discharge the same treatment was continued, but very soon improvement ceased, her attendance became irregular, and in a short time the arm was as bad as before. Patient was re-admitted on November 24, 1896. The left arm was in the condition previously described, and extremely painful; the right arm was perfectly healed, with no tendency to recurrence and no imperfection in the movements of the fingers or hand. On November 25 a similar operation was performed on the left side as has just been described as regards the right. The grafts took well, and she was discharged on December 24 quite well, and has remained so since.

The writer also refers to a tongue half excised for an obstinate ulcer, which had resisted large doses of iodide of potassium, and was looked on as epithelioma, but which did not prove to be so on examination by the microscope, and in which he found another gumma in the substance of the tongue. The patient lived for several years, and had no further syphilitic disease of the tongue. In tertiary syphilis affecting bones the possibility of doing good by operative interference is much greater and more frequent. The local treatment of gummata by removal in cases which will not yield to medicinal treatment, or where the patient cannot bear a thorough course of treatment, is no less worthy of consideration than the local treatment of tuberculous lesions. Iodides are admittedly only temporary remedies; unless combined with mercurial treatment no permanent freedom is certain. Indeed, in some cases iodides alone seem to have the same disadvantage as was attributed to tuberculin, namely, that the virus is, so to speak, liberated, and, after the cessation of the treatment, leads to fresh lesions in the neighbourhood; and the

removal of the local lesions may prevent the occurrence of further lesions in the vicinity, which rather seem to spread by local infection than by fresh deposit from the blood. In very rapidly breaking down gummata, in parts where the result may be serious, as in the palate, thoroughly clearing out the gummata might be advantageously combined with vigorous antisyphilitic treatment. In mentioning this matter of operative interference the author would in no way intermit vigorous general treatment, nor does he think operation is necessary except in a limited number of cases. — From abstract in *Therapeutic Gazette*, January 15, 1898.

76.—THE RELATIVE MALIGNANCY OF VILLOUS TUMOURS.

By Mr. PAUL, F.R.C.S., of Liverpool.

[The following is taken from Mr. Paul's paper :]

With the exception of cases met with in an early and favourable condition for operation, the usual history of villous tumour of the bladder seems to be, that it tends to recur after imperfect removal, and with each recurrence to get a firmer hold on the bladder, assuming more and more the clinical features of an infiltrating growth. In regard to its malignancy, it behaves like rodent ulcer, which in its early stages is easily cured by complete removal, but in its later stages recurs with the utmost persistency. In the rectum, I have had better opportunities of studying the nature of villous tumour, because in this part one makes a free removal, and the whole specimen is available for microscopical examination; and if it assumes a malignant character, the entire organ can be excised, and the change from papilloma to carcinoma investigated. Villous tumour in the rectum is supposed to be rare, but my experience would lead me to think that its presence here is not so uncommon as is ordinarily assumed. Unless one is actually looking out for a specimen, it is easy to mistake it for the more common carcinoma. The first specimen I met with was very large. It completely surrounded the bowel for about three inches, most of it being beyond the reach of the finger. It felt like a soft fungating cancer, and I did not recognise its true nature until I saw the long fringes of the portion cut off for microscopical examination float out in the fixing fluid. This patient was operated on two and a half years ago, six inches of bowel being removed. It is long since I had the opportunity of examining her; but from a letter recently received, something seems to be wrong in the neighbourhood of the new anus, and it is not

unlikely that an examination will reveal a malignant recurrence. Since this case, I have met with no less than three more villous tumours of the rectum. One was only the size of a walnut, and being completely removed, with a good margin of bowel, there is every reason to believe that the patient would have remained well had she not a few months subsequently died from a cause quite unconnected with the bowel. The second case had been operated on by Mr. Willett at St. Bartholomew's three years before coming under observation. We could not obtain a detailed report on the nature of the substance removed, but it was polypoid, and believed to be innocent. At the time of my operation the growth was partly infiltrating, and the glands in the meso-rectum were the seat of secondary deposits; yet a large part of the original tumour was purely and unmistakably villous,—not villous carcinoma, but true papilloma. The patient is still living, fourteen months after the operation, but, like all cases in which the glands are involved, has a recurrence. The third case was operated on in my ward by Mr. Robert Bickersteth. This, again, was partly pure villous tumour, while in another part it had become malignant. Here, then, are four cases of villous tumour of the rectum, two of which had assumed malignant characters before they came under my observation, though in my judgment there is satisfactory evidence that they commenced as pure and simple papilloma; in another, it is probable that the same change has occurred; whilst in the fourth, the disease was recognised sufficiently early, and removed sufficiently widely, to permit of a permanent cure.

Now, I can quite imagine a doubt in the minds of some as to the correctness of the diagnosis in these cases of villous tumour originating in the rectum, but I feel sure that a glance at the microscopical preparations will be sufficient to convince anyone. The absence of infiltration except in the malignant parts, the height of the columnar epithelium, the smallness and regularity of the nuclei, the great length and numerous branches of the fringes, and the delicacy and vascularity of the connective-tissue core, render the specimens so striking, and so unlike the most cylindrical-celled carcinoma, as to at once arrest the attention of the most casual observer. Granted that these cases commenced as true villous tumour, it must be admitted that this growth in the rectum shows a marked tendency to become malignant. Papillomata are included amongst the innocent tumours, but it seems to me a great mistake to draw a hard and fast line between innocency and malignancy: I firmly believe there is no such line of demarcation. In connective-tissue growths especially we recognise every grade, from those which are absolutely benign, through the locally recurrent, to the most malignant, and the same is true in regard to the epithelial

tumours. Many papillomata and adenomata are perfectly innocent, but some have an innate tendency to become malignant, and thus occupy an intermediate position between the former growths and carcinoma. After all, if one excludes the common and infective warts, there are not many papillomata that one feels perfectly safe to leave untouched. On the skin, dry branched papillomata often remain inactive for a lifetime; in the mouth, they may continue for years unchanged; on the lips, they are more frequently the precursor of epithelioma; but whether on the skin, or on the mucous membrane of the respiratory, alimentary, or urinary tract, papillomata always show a certain tendency to become malignant. A skin wart is the type of innocent papilloma. Epithelioma is the type of malignant papilloma. Villous tumour occupies the intermediate position. It is the recurrent papilloma which ends in carcinoma, just as recurrent fibroid ends in sarcoma. The tendency to regard villous tumour as an innocent growth has an undesirable clinical influence. It encourages us to use the curette, snare, and ligature, in place of the knife, scissors, and cautery. It would, I think, be better to speak and think of it as a malignant papilloma,—a growth prone to recur, and certain, if time be given it, to assume a cancerous nature; but one which is, nevertheless, quite amenable to surgical treatment, if only that treatment is sufficiently radical.—*Liverpool Medico-Chirurgical Journal, January, 1898.*

77.—THE TREATMENT OF INOPERABLE SARCOMA BY COLEY'S FLUID.

By C. W. MANSELL MOULLIN, F.R.C.S., Surgeon to the London Hospital, &c.

Mr. Mansell Moullin read a paper on the treatment of inoperable sarcomata by means of Coley's fluid, the mixed toxins of the streptococcus of erysipelas and the bacillus prodigiosus, illustrated by details of ten cases that have been under his own care. In three of these the tumours had disappeared, and there had been no recurrence. In another the original growth (a spindle-celled sarcoma of the superior maxilla) was entirely absorbed, but meanwhile a secondary growth developed in the head of the tibia; and in a fifth the tumour, which was a slowly growing fibro-sarcoma, diminished in size, but only for a while. Of the remaining five, two, a recurrent carcinoma of the breast, and a lympho-sarcoma of the neck were not benefited in the least. A third refused further treatment after two injections, and two had died. Mr. Mansell Moullin also gave an account of some of the cases in

which malignant growths had disappeared after attacks of erysipelas, and quoted Dr. Coley's statistics of the results of his method of treatment in his own hands. Mr. Mansell Moullin suggested the following conclusions (although some of them may require modification later on) were justified by the facts brought forward:—(1) It cannot be denied that there is a considerable number of cases in which sarcomata that had been given up as hopeless, often after repeated operations, have absolutely and entirely disappeared under this method of treatment. There is no other method of treatment, except inoculation with the streptococcus of erysipelas itself, of which nothing can be said. (2) Some of these cases have remained free from recurrence for upwards of three years, the period which in the case of excision of the breast for scirrhus is regarded by many operators as justifying the use of the term cured. (3) Several of the cases in which sarcomata have disappeared after an attack of erysipelas have remained free from recurrence for seven years and upwards. (4) The fact that there may be a few, a very few, cases recorded in which sarcomata have disappeared, either spontaneously, or after such diseases as acute specific fevers, has nothing to do with these conclusions. (The statement that sarcomata do occasionally disappear is repeated with great regularity, but well authenticated cases in which this has taken place, verified in the way in which Dr. Coley's have been verified, are very difficult to find.) (5) Nor are these conclusions in any way invalidated by the fact that injections of the mixed toxins are sometimes followed by the disappearance of other growths, such as lupus, keloid, syphilitic deposits, carcinomata, &c. It may make the disappearance of sarcomata more difficult to understand, but it in no way disproves it. (6) The proportion of cases of sarcoma that are cured by the injections depends, among other things, upon the histological character of the growths. Spindle-celled sarcomata are by far the most successful. This suggests the conclusion that the mixed toxins have a selective action, even if it is not specific. (7) The disappearance of sarcomata is not due to inflammation, but to an intensely rapid form of fatty degeneration, comparable only to that which affects the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they do occur, are septic complications. (8) Degeneration and absorption may occur whether the toxins are injected directly into the tumour, or into some distant part of the body. In the former case, however, the effect is more rapid and the constitutional symptoms more severe. (9) The method is attended by a considerable amount of risk. It should, therefore, only be adopted in those cases for which there is no other remedy. The chief danger appears to be from

collapse and pyæmia. There must always be danger of the latter if there is a suppurating or sloughing sore. It may be argued that patients whose lives are immediately threatened by a malignant growth will never be cured by any remedy that does not involve some degree of risk. (10) The toxins are no use, unless the cultures are taken from a virulent case of erysipelas or are made virulent by passing the streptococcus through rabbits. (11) The bacillus prodigiosus, in spite of theoretical objections, has the effect of immensely increasing the reaction. (12) The effect is most striking in the case of rapidly growing sarcomata. Slowly growing ones appear to have much more resistance. Probably this merely means that masses of embryonic cells with little organisation give way to injurious influences more readily than those that are more closely knit together. (13) Patients often gain in weight and strength while under treatment. (14) Treatment should be continued until the whole growth has vanished, or it has become so small that it can be removed. (15) If there is a recrudescence of the disease, it does not follow that the toxins will be as efficacious the second time as they were the first. Whether this is the result of tolerance being established cannot be said. (16) Recurrence may take place in other parts of the body after many years. (17) The severity of the reaction is very variable. Probably this depends upon the rapidity with which the injection is absorbed, rather than upon any cumulative action it may possess.—*Medical Press and Circular, February 16, 1898.*

78.—THE VALUE OF SKIAGRAPHY IN SURGICAL CASES.

By C. T. DENT, F.R.C.S., Surgeon to St. George's Hospital.

[The following is taken from Mr. Dent's paper. Illustrative cases and photographs have been omitted :]

I need say little about the value of skiagraphy in such cases as needles embedded in the hand or foot. In a good many skiagraphy is of real value ; yet it is often difficult to be perfectly sure even which side of the bone the foreign body really lies, though the needle is apparently wedged in about the bones of the hand. To make certain of the position more than one skiagraph is necessary ; but even then the skiagraphs do little more than absolutely demonstrate the presence of the foreign body. They may not assist, they may even mislead when the removal is undertaken. Moreover, needles, as is well known, shift their position in the most capricious manner. Obviously, in some parts, such as the thigh or gluteal muscles, skiagraphy

would be of little use. In gunshot wounds, skiagraphy would often be of material assistance. But it must be a difficult matter if the bullet is centrally situated in soft parts to judge of the depth of the foreign body by the character of its shadow. The flickering light when the fluorescent screen is used is very trying, and there is still liability to error when the skiagraph is taken on a glass plate. Skiagraphy is of real value in the case of foreign bodies lodged in the œsophagus if, as is usually the case, the foreign body is impervious to the rays. Of little value and difficult in application are the rays for the detection of foreign bodies in other parts of the alimentary canal. Impartial consideration of the value of skiagraphy in injuries of the bones and joints seems to show that its use is more limited than at first appeared probable. My own experience is that the rays are of comparatively little use save for rather coarse or marked lesions—*e.g.*, in a case of caries of the bones of the wrist the porotic condition of the bones will show up fairly enough; but the eroded surfaces, even when there is extensive destruction of the joints, can scarcely, if at all, be made out. But in such a case the osteoporosis signifies little more than disuse of the part. In doubtful dislocation of the elbow, on the other hand, or in cases where it is uncertain, owing to the amount of effusion, whether fracture exists or no, the X rays may absolutely establish the diagnosis. So also with the ankle or knee-joint, though in these instances the existence of actual dislocation is usually far less doubtful. Unfortunately in that troublesome class of cases—injuries about the shoulder—the rays are of far less value, probably because it is no easy matter, either with the screen, or still less with the skiagraph, to get a perfectly satisfactory view of this part. Yet I think every case of injury about the shoulder that is in the least degree doubtful should be examined by the rays. As an aid to the precise diagnosis and treatment of many ordinary fractures, such as are easily examined by the rays, skiagraphy has as yet scarcely been sufficiently employed, though its value would seem obvious enough. Here the use of the screen is invaluable. It is to be hoped that before long a more satisfactory apparatus than any at present on the market may be devised.

In certain respects enough has been already made out to lead us to modify the views usually held as to the nature of fractures, and as to some points in their method of union. Purely transverse fractures seem very rarely to occur in the bones of the lower extremities. Further, a certain amount of longitudinal splitting is far more often the case than is imagined; in greenstick fracture this splitting of the bone may be always observed. The splitting may merely amount to a fissure of the shaft and need not be complete; but examination of fractures by means

of the Roentgen rays will show that very frequently indeed a longitudinal fragment of bone is entirely detached. In fact, a skiagraph will constantly prove that a fracture supposed to be transverse and simple is really oblique and comminuted. Comminution in most cases implies simply the detachment of a single piece, and this detached piece will usually be found on the side remote from that on which the chief impact fell. Such comminution, frequent in the femur and in the tibia, is not always easy to see—indeed, one may fail to recognise it with the screen, though the print of the skiagraph may afterwards reveal it. Obliquity of a fracture, when only moderate in degree, favours rather than hinders sound union. Nor does some amount of longitudinal splitting interfere. Experience of osteotomy bears out this view.

Skiagraphy might very well be employed to test the real value of the practice that has been recently advocated of the immediate treatment by pegging of very oblique fractures of the bones of the leg, whether compound or not. Such fractures, no doubt, unite slowly, and often with a slight degree of shortening. I believe myself that if any operation is done at all it is much better to wire the fragments together than to peg them. I have met with cases in which ivory pegs have set up trouble in the bone many months after, and when they do not become absorbed or quiescent they are exceedingly difficult to remove. Stout silver wire seems to me more easily applied and with a less amount of injury to the parts, to be more capable of varied application, far less prone to set up irritation, and much easier of removal.

Skiagraphy shows very well the process of union in oblique fractures. It is often supposed that when fragments are oblique and not in perfect position the rounding off of the sharp points and edges is due to some absorption of bone; but whereas the rounding off is really due not to the absorption of old bone, but to the addition of new. The first streak of new bone can be seen starting from the very apex of the fragment, and, in fact, the narrowest part of the angle is not that in which the process of repair is usually the most advanced, so that the term "bridge of bone" is often absolutely correct. Specimens in museums seldom illustrate this point well. These slender and delicate bridges of new-formed bone may pass unnoticed, or may be sacrificed in the dissection incidental to the preparation of the specimen.

Yet another valuable application of the Roentgen rays. Until a skiagraph shows that the new bone at the line of union in an excision shows similar density to the rays as that immediately above or below the union is apt to give, that is to say, bending or refracture may take place. By means of the

rays, then, we can determine for how long a rigid apparatus should be worn. When fractures of the patella or olecranon have been wired, it can be determined if it would be safe to remove the wire, if that be thought desirable; or the amount of passive movement that the degree of union safely allows can be estimated. In such cases the stoutest wire is often found to break after a greater or less length of time.—*The Practitioner*, February, 1898.

79.—IS NOT THE MORTALITY FROM SURGICAL DISEASE LARGER THAN NECESSARY?

By CHARLES MCBURNEY, M.D., New York.

With anæsthesia, asepis, and greatly enlarged and improved operative surgery, the immediate danger to life from surgical interference has very greatly diminished, so that increased confidence has become established in the minds of surgeons, physicians, and patients that few cases of surgical disease can reach such an advanced stage as entirely to preclude the possibility of relief by operation. And it is true that many conditions which formerly were necessarily fatal because they were considered to be beyond the reach of surgery are now safely operated upon, and more or less completely relieved. Even partial success in these desperate cases is a very proper source of pride to the surgeon, and each one stimulates him to still greater effort to save those who are nearly moribund. The more desperate the condition and the greater the risk, the more intense his interest, provided the possibility of success by care and skill exists. This feeling is to a certain extent shared by the physician, who now, much more frequently than in former times, calls upon the surgeon for aid, even in very desperate conditions. In this way every surgeon becomes familiar with cases for which he can do little or nothing, because the disease has already gone too far. During the last few years I have been especially struck with the rapidity with which many cases of surgical disease advance from a condition that is entirely curable to one that is entirely incurable, or from one that can be completely and radically treated, to one that can be only partially relieved. Probably almost all surgical cases have their time limit, before which with proper treatment complete recovery can be assured and after which, at least with our present resources, no efforts can be entirely successful. Exactly what this time limit is in each individual case we do not accurately know, but that there is such a limitation which

is well worth our constant thought and study I am firmly convinced. Take, for instance, a case of strangulated hernia. Is there not undoubtedly a moment up to which the possibility, after relief of the strangulation, of a return of circulation in the involved gut still exists, and a moment immediately following when such complete re-establishment of the blood current becomes impossible? Or, in a case of progressive septic peritonitis, is there not a sharp limit to the time within which the removal of the primary source of the sepsis and of its local products is capable of putting an end to the disease? And does not after this limit immediately begin a period when such a condition of general sepsis is established as entirely precludes the possibility of recovery? Or in a case of carcinoma of the breast is there not a brief period during which the disease is absolutely local and so open to radical cure, and immediately after this a period when invasion of lymphatic vessels renders operative work only palliative? As further instances I would enumerate carcinomata and sarcomata in many different parts of the body, cases of bowel obstruction due to whatever cause, all wound infections, and especially suppurative diseases involving or threatening to involve the peritoneum. All of these diseases, with certain rare exceptions, when old age or complications of various kinds render surgical treatment inadmissible, are at the proper time susceptible of complete and radical cure. In other words, there actually is a time limit before which death can be averted, and after which death is, immediately or remotely, inevitable.

The question that I would raise is:—Do we to-day, with all our eagerness to improve the results of our surgical work, devote nearly enough attention to the limit of time when perfect surgery is impossible? Even leaving out the question of life and death, what shall we say in regard to the extension of disease from one tissue to another, calling at a late period for a much more extensive or mutilating operation than would have been required but a very short time before? What an enormous difference between a case of strangulated hernia operated on at a time when a complete operation can be done and the hernia radically cured, and a case operated on at a later stage, when gangrene of the gut has occurred, calling for resection of the intestine, followed by intestinal anastomosis or a permanent artificial anus! Compare two cases of appendicitis, one operated on in the period of quiescence after the first attack, and the other operated on during the second attack, when suppurative peritonitis renders a wide-open wound necessary and a large bulging hernia naturally follows. Besides these more marked instances, many others could be given in which the transition from simplicity to complication is less clearly defined. To-day

a diseased joint may be safely treated by resection ; in a week amputation will be necessary to save life. In the case that I presented, there was a prolonged period when simple extirpation of the tonsil would have been sufficient. When the patient came under my care, the disease had extended so far on the lower jaw that it was necessary to sacrifice the whole of the ramus.

The probability of inoperable recurrence of disease in this case is much greater than it would have been had the operation been done two or three months earlier. It is clear, of course, that the mortality from surgical disease would be very much diminished if all cases could be subjected to treatment before the time limiting the possibility of perfect cure had been passed. The responsibility for not allowing this limit to be passed is then very great, and deserves the fullest appreciation. That in many cases the limit cannot at present be accurately defined is undoubtedly true, and that it will even be thoroughly understood in all cases is not probable. It is easy enough, however, to appreciate the initial stages of many surgical diseases, and knowledge of their natural history should enable a moderately careful professional observer roughly to anticipate the limit before which treatment may be safe and perfect. A natural comment on these observations might be made, that they are trite enough, and that every one knows that, as a rule, the earlier in any surgical disease proper treatment is begun, the more secure will be a completely favourable result.

The point that I wish especially to make is that the sense of responsibility in selecting the time for surgical interference is in many instances not sufficiently acute, and that delay, in some cases of a few hours, in others of days, and in others of weeks, actually directly leads to partial or complete failure, or even to death itself. It is not always easy to decide upon whom this important responsibility rests. Sometimes the surgeon himself is at fault ; sometimes, and not infrequently, the responsibility for fatal delay belongs to the medical practitioner who first has charge of the patient ; sometimes the division of responsibility among too many persons leads to the unfortunate result ; and often enough no one is to blame but the timid patient and his ill-advising friends. I cannot but believe that many of the obstacles to complete surgical success could be removed, and the mortality from surgical disease largely reduced, if the grave importance of selecting the early stages of disease for surgical interference was more clearly realised. Failure to select the most favourable opportunity for surgical interference is responsible for a very large part of the mortality following surgical disease.—*Medical Record*, December 18, 1897.

NERVOUS SYSTEM.

80.—WHEN IS OPERATIVE INTERFERENCE JUSTIFIABLE IN CEREBRAL DISEASE?

By EDWARD D. FISHER, M.D.

[It is only too true, as Dr. Fisher says, that operative treatment has not answered the expectations once raised by it—certainly in non-traumatic cases, as will be known to almost everyone with hospital experience. Some of the intracranial complications of ear disease must of course be excepted from this statement.—E.F.T.]

The question of surgical interference in cerebral disease has been before the profession for some time. A few years ago, when it was found that with proper antiseptic precautions the brain and spinal cord could be handled with as little danger as the other organs of the body, it was supposed that a great field had been opened for cure in many cases hitherto regarded as hopeless. The pendulum has swung in the other direction at present. As an operation had often been done in inappropriate cases, with little if any result, and as also death was not infrequent, either from inefficient methods or from unskilled operators, all operation was deplored. There has always been a true middle course to pursue. In fact, in certain cases a physician is culpable who does not advise surgical interference, even although no positive promise can be made of curative results, and even when only relief can be hoped for. It must always, indeed, be remembered that these operations are capital, and that therefore danger to life is always present. No inexperienced surgeon should undertake them, at least without careful study of the methods and indications. Another side is also always to be remembered, and that is, that life is often prolonged or made more endurable by operation, and this is important enough to take into consideration. I am glad that the conservative view of this operation has been generally accepted. Operations, therefore, for general paralysis, a disease whose pathology shows it to be a widespread inflammation of the membranes and cortex of the brain, should not be undertaken. There is no basis for operation in these cases.

I would not have it understood that I am an earnest advocate for surgical interference in cerebral cases, but this much I would say, that knowing now that the brain can be handled (indeed with caution) without injury to its substance, we should no more hesitate to open into it than we should to open up the abdominal cavity; indeed, there is usually less shock in these cases than in abdominal cases. A certain number of cases,

therefore, urgently demand, all other conditions being favourable, immediate operation—such as depression of the skull from fracture; meningeal hemorrhage, especially traumatic, but not necessarily only these cases. Rarely if ever does intracerebral hemorrhage indicate it, for from the very condition of things it means that the brain substance itself has been destroyed, and the removal of the blood could not restore the destroyed cerebral substance, and, again, the situation of the blood in the region of the internal capsule is too deeply placed to warrant removal.

The cause of the lack of success in these operations lies mostly in the fact that we are dealing usually with incurable conditions or irremovable complications. For instance, tumours of the brain are only “operable” in a small percentage of cases, say 10 per cent., and out of this small number only a possible 10 per cent. can be relieved. The explanation of this is, that the growth is often situated so deeply that its removal would cause such extensive obliteration of the brain as to cause death; or, again, it is so situated, as at the base of the brain, that it can not be reached. Accepting all these difficulties, there are certain strong indications for operation. One case which has been saved by operation demands that each case of that nature should have like opportunities of relief. The same may be said of localised epileptic seizures—whether traumatic in origin or not. The knowledge of cerebral topography is so accurate to-day that at least in these cases we know where to look for the lesion, and if one case can be recorded as benefited, although it is known that the majority do not prove successful, it is our duty to operate, provided other means have failed to bring relief.

Some of the special indications for operation are the following, therefore:—(1) Fracture of the skull, causing compression with resulting paralysis, epileptic seizures, or coma. This would in no case be objected to, and was the practice long before the days of so-called cerebral surgery. (2) Meningeal hemorrhages, traumatic or occurring in pachymeningitis hemorrhagica. (3) Tumours of the brain when situated near the cortex of the brain or even in the cerebellum, but not when deeply situated or at the base. This last statement I would modify by saying that when the tumour is not thought to be a removable one a partial operation may be indicated, as the removal of a large area of the skull often relieves certain marked symptoms of tumour, as vomiting, headache, and convulsions. I have seen beneficial results of that nature in a number of cases in which that was all that could be attempted. (4) Localised epileptic seizures of the so-called Jacksonian type. I would include in this class cases, whether due to injury or arising from unknown causes—that is, so-called idiopathic epilepsy—if limited to

special parts of the body, as the arm, leg, or face, or all three if only one side of the body is involved. In such cases I would advise the excision of these cerebral centres. This, indeed, results in paralysis, perhaps a permanent form; but in many of these patients we have already a certain degree of paralysis, and in that case we simply increase a previous disability. (5) The last indication which I shall mention for surgical interference is cerebral abscess, and especially in the form most commonly presented to us—that following otitis media. I will not include under this head operations in microcephalia or in infantile cerebral hemiplegia with epilepsy, although in some cases, owing to the otherwise hopeless character of these conditions, I am in favour of operative interference. It is too large a subject to take up on this occasion.

In conclusion, while not wishing to describe the methods of operation, I would urge that in cerebral operations a large area of the skull be removed. It both enables us to examine the brain better when exposed, and also, if benefit is to be obtained from relief of cerebral pressure, it surely increases that chance, and also it scarcely increases the danger of the operation. The removal of a mere button of bone with the trephine certainly exposes the patient to some danger, and rarely accomplishes much otherwise. [The details of three illustrative cases are omitted here. Two were traumatic; one entirely recovered and the other partly so; the third was one of intracranial growth operated upon with a fatal result.]—*New York Medical Journal*, April 16, 1898.

ALIMENTARY CANAL.

81.—WHAT OPERATION CAN DO FOR CANCER OF THE TONGUE.

By HENRY T. BUTLIN, F.R.C.S., D.C.L., Surgeon to St. Bartholomew's Hospital.

The Advantage of Early Operation.—In order to see what my experience would teach (1) on the necessity of removal of the entire tongue in all cases of cancer, and (2) on the proportion of patients who die of affection of the glands without recurrence in the mouth, I have collected all the cases of cancer of the tongue, in which I have performed the first operation, up to the end of 1896. The results are compared in two tables, one containing the hospital, the other the private cases. I was struck with

the much greater mortality due to the operation in the hospital group, and the much greater success, so far as cured cases are concerned, in the private group. But, I believe, the difference

TABLE I.—*Hospital Cases.*

Died of operation	..	..	..	..	..	..	9
Lost sight of	..	..	..	..	..	..	7
Recurrence <i>in situ</i>	..	..	..	..	..	..	8
Affection of glands without recurrence	..	..	..	..	..	..	16
Died later, cause unknown (probably cancer)	..	..	..	..	..	..	4
Well within three years after operation	..	..	..	..	..	..	2
Well more than three years after operation	..	..	..	..	..	..	7
Total	..	..	..	..	..	..	53

TABLE II.—*Private Cases.*

Died of operation	..	..	..	..	..	..	1
Recurrence <i>in situ</i>	..	..	..	..	..	..	10
Affection of glands without recurrence	..	..	..	..	..	..	12
Died of other cause than cancer of the tongue within three years	..	..	..	..	..	..	4
Well within three years after operation	..	..	..	..	..	..	9
Well, or died of other cause more than three years after operation	..	..	..	..	..	..	13
Total	..	..	..	..	..	..	49

is explained by the much better condition of the private patients before operation, and the comparatively early stage of the disease at which the operation is performed. For, persons in good or moderate circumstances are much more timid of cancer of the tongue, and much less disposed to bear the annoyance of an ulcerated cancer of the tongue than are the hospital patients. The disease, in the most successful cases, was situated in the anterior two-thirds of the tongue, but there were some patients so fortunate as to be treated with success, even when the disease was placed far back on the border, or beneath the border in the vicinity of the anterior half-arch. The glands were only removed in five of the successful cases, either at the time of the operation on the tongue or soon afterwards. But, in four of the five, they were not only enlarged, but were proved by microscopical examination to be cancerous.

Is Removal of the entire Tongue necessary in every case?—

The whole tongue was removed only in one of my successful cases, and not in one of the patients who are still alive and well between one and three years after the operation. In the complete group of 102 cases the entire tongue was only removed sixteen times, and an analysis of those sixteen cases discovers that four of the patients died of the operation, and two of them shortly after their return home to the country (of bronchitis and laryngitis); that five suffered from recurrence *in situ*, and that only one can be claimed to have been cured.

The removal of the entire tongue is a much more dangerous operation, and leaves the patient in a very much worse condition than the removal of half or the forepart of the tongue, and I believe the operation, as a routine proceeding, can only be

justified by proving (so far as it is capable of proof) that a large proportion of the patients who suffered from recurrence of the disease in the tongue would have been protected from that

TABLE III.—*Removal of Entire Tongue.*

Died of operation	..	..	..	..	..	4
Died very soon after of other causes	..	..	..	..	..	2
Recurrence <i>in situ</i>	..	..	..	..	..	5
Affection of glands without recurrence	..	..	..	..	..	1
Lost sight of	..	..	..	..	..	3
Well more than three years after operation	..	..	..	..	..	1
Total	..	..	..	..	..	16

recurrence had the entire tongue been removed. My cases show that, out of about sixty-six patients in whom local recurrence might have taken place, it was observed only in eighteen. In five of the eighteen the entire tongue had been removed, and, in five other cases, recurrence took place in the floor of the mouth or in the anterior half-arch of the palate, or in some part which would not have been more freely dealt with had the entire tongue been removed. In two instances the disease extended back to the epiglottis, without producing obvious enlargement of the back of the tongue, so that the incision, which was as far back as practicable, passed actually through the disease. In one patient an error of judgment led to the removal of too small a portion of the tongue, so that there only remain five cases in which it is possible that the removal of the entire tongue would have done more for the safety and comfort of the patients than was done by the removal of a portion of the tongue. In two of the cases I think I should have done wisely if I had removed the entire tongue; but in the other three, a very little more than was actually done would have sufficed. I always aim at removing the cancer with three-quarters of an inch of the apparently healthy tissues around it in every direction. If the disease is situated on the border of the tongue, that half of the tongue is removed to an inch behind the apparent margin of the disease. In cancer of the fore-part near the tip, the fore-part of the tongue is removed. The results show what can be accomplished by such operations. A comparison of these results with those I was able to furnish ten or eleven years ago is so satisfactory that I am disposed to take a more hopeful view of the operative treatment of cancer of the tongue than I have ever done before. Barker's collected statistics furnished only 5 per cent. of cured cases (on the three years' limit) in a total of 170 cases. And a collection of seventy cases, which I had previously made, and in every one of which a microscopical examination had been made, furnished 8.5 per cent. The analysis of my own 102 cases, hospital and private, furnishes 20 per cent. of cures. And, if the private cases are taken alone, the percentage is 26, with several other cases which

may, in the course of the next two years, be classed also as cured. Compared with the results of operations for cancer in many other parts of the body, the results are by no means bad,

TABLE IV.—*Successful Cases.*

Duration since operation—					
1 to 2 years	6	} More than three years, 20 patients.
2 to 3 years	..	..	..	4
3 to 4 years	..	..	..	5
4 to 5 years	..	..	..	3
5 to 6 years	..	..	..	4
6 to 7 years	..	..	..	1
7 to 8 years	..	..	..	1
8 to 9 years	..	..	..	2
9 to 10 years	..	..	..	1
10 years	..	..	..	1
12 years	..	..	..	2
Total	30	

especially when the cancer is situated on the anterior two-thirds of the tongue.

What can be done to prevent affection of the Lymphatic Glands?—Unhappily, the satisfaction which cannot but be felt at these improved statistics is tempered by considerations which have been disagreeably forced on me from time to time, and which reached their climax in the year 1896. In the course of that year, five patients on whom I had operated successfully for cancer of the tongue died of affection of the lymphatic glands of the neck. They were for the most part persons whose lives could ill be spared; and their fate affected me deeply, for, in addition to the disappointment I experienced as a surgeon, I took a warm personal interest in several of the patients. The frequency with which this is a sequel of operation has led me to review the whole subject of cancer of the tongue, with the hope of discovering some routine which may serve to lessen the mortality due to secondary cancer of the glands. Looked at in its proper light, cancer of the tongue is a malignant disease; but it is locally malignant, for it is so constantly limited to the tongue and the associated lymphatic glands of the neck, that the prospect of dissemination of the disease may be dismissed. If the affected portion of the tongue and the glands which are associated with it could be removed as thoroughly as they are removed from the axilla in cases of cancer of the breast, there seems no reason to doubt that the lives of many patients might be saved. Two alternatives at once suggest themselves. To remove the glands as soon as they are observed to be in the least enlarged; or, to remove them at or soon after the operation on the tongue, whether they are obviously diseased or not. The first alternative is the more fascinating, and several advantages may be urged in favour of it. Enlargement of glands in the neck is likely to be observed at an early period.

The enlarged glands would determine which glands must be removed. The patients who are cured by an operation limited to the tongue would avoid an unnecessary operation for the removal of the glands of the neck. Unhappily, this expectant treatment is fraught with grave disappointment. In the large majority of cases, by the time the enlargement of the glands is apparent to the patient or his medical attendant, they are beyond the reach of successful removal. This has been demonstrated in many of the cases under my care. In more than one of them the glandular disease seemed to have been suddenly lighted up, and the rapidity with which the glands grow and become fixed to the surrounding structures has often surprised me. In several instances the operation undertaken for their removal had to be abandoned, and one or two of the patients suffered severely from these incomplete and unsuccessful operations. The second alternative would, I have no doubt, be frequently adopted, but it is beset with very great difficulties. In spite of the care with which the lymphatics of the tongue have been investigated, the greatest uncertainty prevails of the particular group of glands which is likely to be affected in any given case of cancer of the tongue. Sometimes, the affected glands are in the floor of the mouth behind the symphysis of the jaw; sometimes, they are in the sub-maxillary region, and in some cases they are half-way down the neck. There seems to be no sufficiently regular rule to justify the routine removal of any particular group of glands in each case of cancer of the tongue. The knowledge of these facts has no doubt deterred other surgeons, besides myself, from removing the glands in the same routine fashion as they are removed in cases of cancer of the breast.

In spite of this uncertainty, I have become so convinced of the necessity of a routine operation for removal of the glands if cancer of the tongue is to be dealt with by operation more successfully, that I have devoted a great deal of attention to the subject during the last two years. [Mr. Butlin then describes the method of operation which he adopts.]—*Medical Press and Circular*, March 9, 1898.

82.—THE MANAGEMENT OF PATIENTS BEFORE AND AFTER LAPAROTOMY.

By Dr. F. H. WIGGIN.

[The following is from an abstract furnished by the author, Dr. Frederick Holme Wiggin, published in the *Medical Record* for January 29 :]

Preparation of the Patient.—Where circumstances will permit, a week should be devoted to preparing the patient for the

operation. Early in the week several small doses of calomel and sodium bicarbonate should be given daily, for three days, followed each morning with a saline. On each of the three succeeding mornings a large enema should be administered, consisting of three or four quarts of saline solution. In order that these large enemata shall be properly given, the physician should superintend this part of the work, taking care to see that a fountain syringe is used, that it is not more than three feet above the patient, that the solution has a temperature of 100° F., and that the flow is checked from time to time as the patient complains of colic or of intestinal distension. Six hours before the operation the rectum should be given a final washing out with the same solution. The diet during this week should be light and easily digestible, and the patient should be encouraged to drink freely of liquids and to rest as much as possible. Every day a hot bath (110° F.) should be given for ten minutes, and in the daily ablutions special attention should be paid to the navel and the pubic region. The nervous system may be quieted by administering, on alternate nights, a mild hypnotic, such as a combination of sulphonal and chloralamide, and arranging its administration so that a dose is given on the last night before the operation. The skin of the abdomen is prepared by applying a soap poultice over the proposed site of the incision, to remain on for two hours, and then substituting a compress moistened with weak bichloride-of-mercury solution. If the patient is a woman, the time selected for the operation should, if possible, be a few days after the cessation of the menstrual flow, and the vagina should be thoroughly douched, first with a solution of boric acid and afterward with a half-per-cent. formalin solution, or a 1-to-4,000 solution of mercury bichloride. It is better to operate in the early morning than in the afternoon. If the former has been selected, the patient should be given a peptonised milk punch at eleven o'clock the previous evening. The administration of an ounce of liquid peptonoids about two hours before giving the anæsthetic stimulates the heart and diminishes the subsequent nausea and vomiting. If the operation is to be done in the afternoon, the peptonised milk punch may be given in the early morning, and the peptonoids at 11 a.m. The patient's body and limbs should be properly protected with clothing during the operation.

Preparation of the Room.—The operating table should be about twenty inches wide and thirty inches high. The following articles should be provided and, after being cleansed and washed with bichloride-of-mercury solution, should be placed in the room: Several small tables or stands, a few wooden-bottomed chairs, several pitchers and meat platters, four or five basins,

and a fish-kettle for the instruments. In addition, there should be several gallons of both hot and cold water, sterilised by boiling, and at least a dozen towels, sterilised by steaming. For emergency cases it is safer to cover the floor with a sheet wet with bichloride-of-mercury solution than to stir up the dust of the room by more elaborate preparations.

The Operation.—The anæsthetic should be administered before bringing the patient into the operating room, and if ether is to be employed, it is better to give subcutaneously, half-an-hour before, an eighth of a grain of morphine and a hundredth of a grain of atropine. A closed ether inhaler allows of the easy and rapid induction of anæsthesia and the maintenance of this state with a minimum of the anæsthetic. The skin is finally prepared for the operation by a scrubbing with hot water and tincture of green soap, followed by irrigation with sterilised water, ether, and alcohol. If the patient is a woman, it should be made an invariable rule to irrigate the vagina and swab it out with gauze. The author strongly favours making the incision through the right or left rectus muscle, instead of through the linea alba. He also believes that leaving a considerable quantity of hot saline solution in the general peritoneal cavity, after irrigation, acts as a stimulant and at the same time tends to prevent the formation of intestinal adhesions. In closing the abdominal wound the deep sutures should be placed at least an inch apart and loosely tied. The edges of the skin may be accurately adjusted by a buried suture of silkworm gut. If during the operation the pulse-rate increases twenty or thirty beats, a subcutaneous injection of a twelfth of a grain of strychnine and a hundredth of a grain of nitro-glycerine should be administered and repeated as required. If in spite of this treatment the pulse exceeds 150, one or two pints of warm saline solution should be introduced into the median cephalic vein at once.

After-treatment.—The patient should be put to bed with warm blankets and bottles and, soon after consciousness has been restored, should receive one dose of a hundredth of a grain of atropine and an eighth of a grain of morphine. It is not necessary to keep the patient in one posture for the first few days. For the first twelve or eighteen hours nothing should be given by the mouth but small quantities of warm water. If there is much gastric irritation, it may be relieved by the external application of chloroform to the epigastrium. After this period, a drachm of liquid peptonoids may be given every twenty minutes, for four doses, and then small quantities of peptonised milk may be cautiously added, gradually increasing the quantity and lengthening the interval. Once in twenty-four hours an interval of six hours should be allowed in order

to rest the stomach. If there is much intestinal distension, this can be relieved by the introduction of a rectal tube or the nozzle of a syringe or by massage along the course of the colon. Usually no cathartic need be administered until the third or fourth day, and then small doses of calomel and sodium bicarbonate should be given, followed by two or more Seidlitz powders. If, as is usually the case, the temperature is normal by the evening of the fourth day, the patient may be allowed to resume ordinary diet rapidly. The dressings should be changed on the fifth day and, if the sutures are cutting through, they should be removed and the wound supported with strips of adhesive plaster.

Complications.—The complications which may be met with occur in the following order: Concealed hemorrhage, peritonitis, intestinal paresis, intestinal obstruction, and stitch abscesses. As soon as concealed hemorrhage is diagnosticated, an intravenous saline injection should be administered, but it is useless to operate unless the patient shows a reasonable response to stimulants. The onset of peritonitis is usually announced by a steady increase in the frequency of the pulse, and this should be the signal for the prompt evacuation of the bowels with calomel and salines and with enemata of glycerine and water or of a saturated solution of sulphate of magnesium. When there is intestinal paresis the stomach should be washed out and salines freely administered. As soon as intestinal obstruction is recognised the abdomen should be re-opened and the constriction relieved. Stitch abscesses usually announce themselves by the fourth or fifth day. In estimating the patient's condition, the facial expression is of the greatest value.—*New York Medical Journal*, February 12, 1898.

83.—COMPLETE EXCISION OF THE STOMACH FOR DIFFUSE CARCINOMA.

By CARL SCHLATTER, M.D., Zurich.

[The following celebrated case was still alive and well six and a half months after the operation, and some further observations have been made upon her in Eichhorst's Clinic (see *Münch. Med. Woch.*, May 3, 1898). Much of Dr. E. C. Wendt's paper, in which Dr. Schlatter's account of the case occurs, has had to be omitted.]

The personal observation forming the subject of this paper relates to a woman 56 years old. In her case I completely excised the stomach, even beyond its cardiac extremity, and

then restored the continuity of the alimentary canal by stitching a loop of small intestine into the lower end of the œsophagus, *i.e.*, œsophago-enterostomy.

History of the present case.—Anna Landis, aged 56 years, silk weaver by occupation, claims that cancer is hereditary in her family. As a child she recalls having had frequent attacks of abdominal pain. According to her own notion these attacks were due to the poor quality of the food at the orphan asylum where she was brought up. Later on she often complained of severe pains in the stomach, accompanied or followed by vomiting. She never saw bloody admixtures in the ejected matter, but large quantities of bile often came up. Medical treatment had never afforded her any relief. Ever since the spring of 1897 the attacks of vomiting were of daily occurrence. Progressive emaciation also ensued. Several weeks before her admission to the hospital a physician told her that she had a tumour of the stomach. I first saw the patient at the surgical polyclinic on August 26, 1897. An inspection of the abdomen revealed a marked bulging between the left hypochondriac region and the umbilicus. The abdominal parietes were flabby, and palpation easily revealed an oval mass of hard consistency in the region of the stomach. The tumour was freely movable. Its size was about that of two fists. Very marked emaciation was found. The patient was unable to retain any kind of nourishment. She clamoured for relief by surgical interference. She was admitted to my wards for further careful observation. I did not feel confident that gastrectomy, or even gastro-enterostomy, could be successfully performed, on account of the large size of the tumour. The patient continued to reject almost everything, including fluids. The iodide reaction of her saliva (after exhibition of iodide of potassium) required forty-seven minutes for its first appearance. The chemical examination of her gastric secretion showed no trace of free hydrochloric acid. An operation was, therefore, no longer delayed.

Description of the Operation.—On September 6, 1897, acting for Professor Krönlein, I performed laparotomy under morphine-ether anæsthesia and with strict antisepsis—incision in the median line, extending from the ensiform process to the umbilicus. As I had anticipated, the entire stomach presented itself in the shape of a hard mass extending from the cardiac to the pyloric extremity. Strangely enough, the tumour was freely movable. It was readily lifted out of the peritoneal cavity. Three rather soft lymph nodes were found at the greater curvature near the pylorus. The stomach being diseased *in toto*, a gastro-enterostomy was impossible. I at once decided to attempt to excise the entire organ, or take recourse in a jejunostomy. I first freed the stomach from all its attachments at the greater and lesser curvature, having previously shut off the general cavity of the peritoneum by sterilised compresses. The omentum was incised between Péan's forceps. Silk sutures were used. The stomach was then forcibly dragged downward so as to enable me to reach the œsophagus. The left lobe of the liver had to be constantly held upward by an assistant, in order to permit me freely to manipulate within the field of operation. In this way I finally

succeeded in securing the œsophagus rather high up, by means of a Wölfler clamp. A Stille forceps was next fastened closely to the cardiac end of the tumour. Then the stomach was severed directly beneath the œsophageal extremity. As the œsophageal incision appeared somewhat oblique, I proceeded to place a small occluding suture at the gastric wound. The same steps were now repeated at the pyloric end of the stomach. I next mobilised the duodenum, as far as possible, toward the head of the pancreas. Then, having applied a duodenal compressor, and likewise a tumour clamp, I removed the entire stomach, between the two points of compression. I also dissected out the lymphatic nodes above mentioned. The patent lumen of the duodenum was treated like the œsophageal opening with iodoform gauze. The broad bridge joining together different divisions of the alimentary canal had now been entirely removed. I next tried to pull the duodenal opening upward the œsophageal cleft. It was only with considerable difficulty that the two could be made to touch. It was manifestly impossible to join them by direct suture. I, therefore, invaginated the duodenal rim, and closed the opening by a double suture. I then searched for a suitable coil of small intestine. Beginning at the duodenal-jejunal fold, I followed down the intestine for about fifteen inches. The presenting knuckle of intestine I grasped, and, pulling it over the transverse colon, I placed it against the œsophageal slit. A piece of this intestine, about five inches in length, was secured between two Wölfler clamps. By means of sutures not going deeper than the serous coat, the intestine was then attached to the œsophageal stump. A longitudinal slit about one inch in length was then made into the bowel. Then the mucous membrane of the œsophageal end was firmly united with the intestinal mucous membrane, by a continuous circular suture. The material employed was silk. Above this, a second suture, extending through the muscular and serous coats, was introduced. A Lembert suture finally completed the stitching, which now seemed to hold. The œsophageal and duodenal clamps were then removed, the former having remained in position for over two hours. On dropping back the organs into the abdominal cavity, the sutured portions showed marked retraction upward, toward the œsophageal part of the diaphragm. The abdominal wound was closed in the ordinary way by silk ligatures. Less than eight ounces of ether had been employed during the narcosis, which had fortunately been a very quiet one. Pulse after the operation, 96 a minute, steady, and of fair volume. There had been only a very slight loss of blood during the course of the operation, which, however, had lasted nearly two and a half hours.

Clinical Observations in connection with the Obliteration of all Gastric Functions after the Operation.—There being no food receptacle after ablation of the stomach, it became obligatory to feed my patient at first with minute quantities of food, given at short intervals. The results of this method of procedure were in all respects happy ones. Quantities of food approaching ten ounces seemed to excite vomiting. So, too, cold fluids resulted in diarrhoeal discharges, and may have been partly responsible for the rise in temperature, observed for some little time after the operation. Keeping in mind the absence of mechanical function, the patient's dietary was at first a strictly fluid one. But as early as the second week after removal of the stomach, semi-solid and even solid food was allowed. It was retained and digested without discomfort. The patient having only a single tooth, mastication was of course quite imperfect, otherwise it seems to me possible that an ordinary mixed diet might have succeeded at a still earlier date. Some weeks after the operation the patient's ordinary daily dietary was as follows:—At regular intervals of from two to three hours she took milk, eggs, thin gruel or pap, tea, meat, rolls, butter, and Malaga wine. The daily quantity amounted to one quart of milk, two eggs, two to three ounces of pap or gruel, seven ounces of meat, seven ounces of oatmeal or barley water (as thick almost as gruel), one cup of tea, two rolls, and half an ounce of butter. Personally, I felt most concerned about the obliteration of all chemical activity on the part of the absent stomach. I soon perceived that adding pepsin and hydrochloric acid to the food was theoretically as inadmissible as it had been found practically valueless. The alkaline fluids of the intestine at once neutralised the acid, and rendered the pepsin inert. Fortunately it soon became apparent that, despite the absence of acid pepsin, proteids were readily assimilated in the intestinal tract.

Conclusions by Dr. E. C. Wendt.—While it would be manifestly unfair to indulge in sweeping generalisations on the strength of this single case, so boldly rescued and ably described by Dr. Schlatter, it seems at least justifiable to formulate the following conclusions:—(1) The human stomach is not a vital organ. (2) The digestive capacity of the human stomach has been considerably overrated. (3) The fluids and solids constituting an ordinary mixed diet are capable of complete digestion and assimilation without the aid of the human stomach. (4) A gain in the weight of the body may take place in spite of the total absence of gastric activity. (5) Typical vomiting may occur without a stomach. (6) The general health of a person need not immediately deteriorate on account of removal of the stomach. (7) The most important office of the human stomach is to act as a reservoir for the reception, preliminary preparation,

and propulsion of food and fluids. It also fulfils a useful purpose in regulating the temperature of swallowed solids and liquids. (8) The chemical functions of the human stomach may be completely and satisfactorily performed by the other divisions of the alimentary canal. (9) Gastric juice is hostile to the development of many micro-organisms. (10) The free acid of normal gastric secretions has no power to arrest putrefactive changes in the intestinal tract. Its antiseptic and bactericide potency has been overestimated.—*Medical Record*, December 25, 1897.

84.—THE SURGICAL TREATMENT OF APPENDICITIS.

[The following is taken from Dr. John B. Deaver's paper. The author is among those who strongly advocate early operation in appendicitis. It is needless to say that different opinions prevail on this subject. The account of the pathology and medical treatment is omitted; Dr. Deaver advocates purgation in the early disease, a method of treatment which will hardly commend itself to many.—E.F.T.]

I wish to emphasise the fact that the appendix once the seat of an inflammation is never restored to the condition in which the inflammatory process found it, as a careful microscopical study will prove. This being an absolute fact, there is but one cure—namely, removal of the affected organ. The description of the operative treatment for appendicitis can best be disposed of by describing the operation in the absence of and in the presence of pus. The earlier the operation is done in the acute cases the less likelihood is there of meeting with pus, yet, in a certain class of cases, pus will be present be the operation done ever so early. We all agree that the removal of the appendix in the absence of pus can be done with a greater degree of safety to the patient than under the opposite condition. Did it become necessary for any of us to have our appendix removed, we certainly would prefer not to have pus present. The old practice was not to think of operation in these cases until the presence of pus could be diagnosed. This was in keeping with other old practices of which more modern teaching has shown the fallacy—namely, that a wound was not healing unless it was bathed in so-called healthy pus. We will agree further that the earlier the operation is done the greater are the chances against the presence of pus. I could go on, did time permit, and offer argument upon argument in favour of early operation, knowing that not one of them could be logically met by a stronger one in favour of delay; but this, I feel, is unnecessary in the light of the practical deductions of experienced operators. The same holds good in arguing in favour of operation

in chronic appendicitis. I have never failed to convince physicians of my views who have witnessed a number of these operations in the acute and chronic cases early, very early, late and very late. Would that it were possible to present these object-lessons to those of the profession who are still sceptics. The stand I have taken is to remove the appendix in the presence of pus, and not to content myself by simply evacuating the abscess. I grant, however, that the removal of an inaccessible appendix in the presence of pus or of an abscess should not be attempted by the occasional operator. I know of no class of work calling for greater skill, and capable of taxing the expert more, than some of these appendical abscess cases. This does not discredit the operation, but it is an argument against faulty technique. In the presence of infectious pus it requires but the slightest miscarriage of the technique to cost a human life. The success in dealing with these cases is wholly due to the proper disposition of sterile gauze and a correct knowledge of the anatomy of the part. The danger of leaving an infected appendix, the train of serious sequelæ which may result, &c., I have called attention to elsewhere. The position which an abscess resulting from appendicitis may hold is behind the cæcum and colon, beneath the mesentery, immediately to the inner side of the colon, the latter with coils of small intestine, plus a certain amount of exudate, forming the wall; or in the midst of coils of small bowel alone; or in the neighbouring great omentum; or in the pelvis; or free in the general peritoneal cavity. When pus has developed in the peritoneal cavity, the earlier the operation is performed the greater will be the percentage of recoveries. The secret of dealing successfully with collections to the inner side of, and distant from, the cæcum, is in first cutting down upon the cæcum, locating the site of the collection, and walling off with gauze; then making a secondary opening into the abdominal cavity upon the opposite side of the collection, introducing secondary packing, and attacking the abscess and removing the appendix through the primary incision. One word about dealing with the appendix. When practicable—and this is so in all the acute cases operated upon within the first twelve or eighteen hours, and in nearly all of the chronic cases—the appendix should be cut out of the cæcum, and the latter closed after the manner of uniting any ordinary intestinal wound. The advantages this plan offers are many, chief among which is the avoidance of secondary abscess, either at the site of the remaining base of the organ or within the walls of the cæcum, and the diminished risk of sinus and fistula due to the base of the appendix becoming attached to the line of the incision, thus opening up free communication between the cæcum and the surface of the belly walls.—*Annals of Surgery.*

85.—A CASE IN WHICH THE CÆCUM AND THE
ASCENDING AND TRANSVERSE COLON
WERE REMOVED FOR MALIGNANT DISEASE ;
RECOVERY.

By R. LAWFORD KNAGGS, M.C. Cantab, F.R.C.S. Eng.,
Assistant-Surgeon to the Leeds General Infirmary.

[The following is taken from Mr. Knaggs' paper :]

Dr. F. J. Shepherd, of Montreal, has published a list of thirteen cases in which large portions of intestine varying from 10 ft. to 31½ in. had been removed by various operators. Apparently these all referred to the small intestine, and were instructive from the evidence they afforded that good health and nutrition can be maintained after the removal of considerable portions of the whole intestinal absorbing surface. The large intestine does not lend itself so readily to resection as the small one, and, moreover, the cases in which removal of relatively large proportions would be really justifiable are not of frequent occurrence. Mr. Treves, in *The Lancet* of January 29, 1898 (p. 276), has narrated a remarkable case in which he successfully removed the lower portion of the large intestine from the anus as high as the splenic flexure for a congenital condition of the rectum which had produced a chronic obstruction, and the following case, in which the bowel resected for malignant disease extended from the termination of the ileum to the splenic flexure, is an additional proof that very extensive portions of the large intestine may be taken away with safety. [The clinical details of the case are omitted here.]

Operation.—On August 12 the patient, aged 33, was anæsthetised and the abdomen was opened by a 6-inch incision over the lump and to the outer side of the right linea semilunaris. The swelling was found to be situated in the large intestine and to be undoubtedly growth. It was as large as a medium-sized melon and much omentum was attached to it. Its connections appeared so complicated that it was drawn outside the abdomen for investigation. The discovery was then made that the stomach was closely attached to its left side by what proved to be the upper portion of the great omentum, and it was seen that the omentum previously alluded to constituted its lower free portion and that the disease affected the transverse colon. A finger was now passed above and another below the free edges of the omentum which stretched between the stomach and the colon. They met behind, so this layer of tissue was secured by five or six silk ligatures and divided. A piece of india-rubber tubing was next passed through the meso-colon and tied tightly round the large bowel in the right iliac fossa some four inches below the growth, and the intestine was cut across above the ligature but well clear of the disease. The meso-colon looked and felt like a large roll of fat as big as a flattened fist. It was dealt with from below upwards, portion after portion being ligatured with strong silk and divided. The tumour was now largely detached and hanging outside the wound, and its

weight gradually drew down the cæcum from the right hypochondrium. So little of the ascending colon was left uninvolved by the growth that it was quite out of the question to unite two portions of large bowel. The ileum was therefore encircled with another piece of tubing about three inches from the ileo-cæcal valve and was divided close to its entrance into the large intestine. The remaining strands of ascending meso-colon and (?) mesentery were now ligatured and divided with as much consideration for the vitality of the cut end of the ileum as the unusual condition of parts permitted and the growth was removed. In the thick mass of the meso-colon many glands had been felt, and when it was divided some were seen, but it was doubtful if they were diseased, and it was not thought wise, by attempting to remove them, to enter upon a proceeding which could hardly be thorough and would add largely to the risks which the patient already had to face. The cut ends of the ileum and colon were now united by a Murphy's button. There was considerable strain upon the small bowel and a supporting suture tore through as it was being tightened, so reliance had to be placed upon the button alone. Lastly, the protecting sponges were drawn from the abdomen and iodoform gauze was packed down over the surface of the junction and brought out at the upper angle of the wound and the lower part of the incision was closed in layers. A dry dressing was applied. The operation lasted an hour and the patient was less seriously affected than I expected, though one or two subcutaneous injections of brandy and strychnia were given towards the end.

The after-progress was not quite uneventful. For a few days there were a certain amount of vomiting and also hiccough, which at first was very troublesome. Both symptoms disappeared after the bowels had been freely opened on the fifth day. Rectal feeding was kept up for several days, but fluid nourishment by the mouth was commenced the day after the operation. [The patient steadily improved and finally made a good recovery.] A microscopical examination of the tumour was made for me by Mr. Stott, the honorary pathologist to the Infirmary, who reported that it was a columnar-celled epithelioma.

The position occupied by the tumour in this case was a very unusual one for a mass in the transverse colon. There can be no question that it reached that position in consequence of its weight. The late appearance of the tumour in the loin and its marked lateral mobility to the left are both consistent with this fact, and certain features of some interest that were observed during the progress of the case were associated with this altered position of the large gut. It is probable that the growth began in the transverse colon next to the hepatic flexure, which gradually became straightened out as the ascending colon was involved by its lateral extension. The contracting nature of the growth not only diminished the length of the affected segment, but gave it a much greater rigidity, and by crowding together the ascending and transverse meso-colons produced the greatly thickened pedicle which constituted one of the chief anxieties of the operation. A change in the normal relations of the various parts resulted from the gravitation of the bulky tumour, the rigid intestine rotating upon an antero-posterior axis, so that the heavy end came to occupy the loin, whilst the cæcum

was tilted above it and lay in contact with the under surface of the liver. Consequently upon this change in position of the transverse colon the stomach was pulled downwards and to the right until it lay beneath the umbilicus, and this altered position of the stomach, in its turn, would lead to kinking of the duodenum at the junction of its first and second parts, where the movable portion joins the fixed. Most probably the obstruction which called forth the vigorous muscular contractions of the stomach, so noticeable after the removal of the tumour, arose in this way.

There are two practical points connected with the operation which merit some attention. I prefer to use Mayo Robson's bobbin wherever possible, because I believe it gives greater security, and I hold Murphy's button in reserve for those cases where the condition of the patient makes it imperative to cut down the time spent on the operation to the smallest possible limit. It was for this reason that a Murphy's button was used in this case, but the tension upon the two ends and the depth of the upper one were such that I am convinced that an attempt to use the bobbin would have failed to secure a satisfactory union. The experience, therefore, gained from this case inclines me to the belief that in exceptional instances a Murphy's button may be found of use where union by suture upon one of the various forms of bone bobbin is impracticable. The other point is the plan that was adopted of packing down to the seat of union with gauze. In the last volume of the Transactions of the Clinical Society (vol. xxx., p. 89) Mr. Sheild describes a case of excision of the cæcum in which, on account of similar doubts as to the vitality of the ends of the bowel, the same method was used. The value of the proceeding was in both cases unmistakable, and in my case by preventing a general extravasation of fæces or a localised fæcal abscess, it undoubtedly saved the patient's life. Had I packed in another case of removal of a growth from the sigmoid flexure where the meso-sigmoid was so contracted that the proceedings could not be carried on outside the abdomen, the patient would have been spared the long anxiety of a deep-seated pelvic abscess and its subsequent surgical treatment.

In those cases of resection of the bowel in which gauze-packing down to and around the union is employed, any leakage taking place from imperfect suturing or from sloughing edges does so into a cavity communicating freely with the exterior and walled off from the general peritoneum by the adhesions induced around the packing. The deep granulating cavity which results rapidly dwindles to a sinus, and as its deeper parts cicatrise the closure of the fæcal fistula may be counted upon with considerable confidence. Gauze-packing will, I believe,

prove to be of great value in preventing the serious and often fatal complications resulting from leakage after resection of the intestine, and as such complications constitute the chief danger after these operations, a method which can do so much to avert them is worth a more extended application in suitable—*i.e.*, in doubtful—cases.—*The Lancet*, April 16, 1898.

86.—THE OPERATIVE TREATMENT OF HEMORRHOIDS.

[The following is Mr. Swineford Edwards' summary, with remarks of Dr. Parker Syms' paper:]

This is the title of a paper by Dr. Parker Syms in the *New York Medical Journal* for February 12, 1898. He says:—There are three well-known and approved methods of operating upon hemorrhoids—*viz.*, first by ablation and ligation, known as Allingham's operation; second, by resection of the entire hemorrhoidal area, known as Whitehead's method; third, ablation of the hemorrhoidal masses by means of the clamp and cautery. The objects to be aimed at in every operative procedure should be, first, to completely cure the patient; second, to subject the patient to as little risk as possible; third, to effect a cure as rapidly as one is able; with, fourthly, a minimum amount of suffering; and, fifthly, to produce the least possible deformity and disability in the parts involved. Whitehead's method he considers, owing to its somewhat formidable nature—the loss of blood entailed, the necessity of obtaining union by first intention and the liability to subsequent stricture—should be avoided in the vast majority of cases. As to the operation known as Allingham's, it is an excellent operation in most cases, and is free from most of the risks of Whitehead's; but he says it is a less radical operation than that by the clamp and cautery, involves a greater loss of blood, takes longer to perform, and is attended by a greater amount of post-operative pain. The author is, therefore, strongly in favour of the operation by clamp and cautery, which he then describes. *Inter alia*, he mentions the lithotomy position, preliminary forcible dilatation, incision of mucous membrane at the anal margin as far as the width of the mass to be removed. After the removal of the clamp it may be necessary in rare instances to apply a ligature to a bleeding point. As to after treatment: he likes a saline purge administered on the second day, if the bowels do not move spontaneously. External bathing and the insertion twice daily for the first week of a suppository containing five grains of iodoform

In commenting on this paper we would ask why the author calls the first two mentioned methods by the names of particular surgeons, but not the third, when the name of Henry Smith is so intimately associated with the clamp and cautery. Again, although Allingham, senior, popularised by his practice and writings the operation of incision and ligature, the credit of it really belongs, we believe, to Salmon, the founder of St. Mark's Hospital for rectal disease, who originated it, and by whose name it is known in this country. The author states that this operation is less radical than that of the clamp and cautery. Here we differ from him. They are, or should be, both radical in their cure; but, if there is anything to choose in this respect between the two methods, we think the balance is in favour of Salmon's operation, for the application of the clamp is not, and cannot be, as exact as that of the ligature. Indeed, where the piles are numerous, it is very difficult to remove—per clamp and cautery—all one wishes without overdoing it, thus running the risk of subsequent contraction. As to the second objection, viz., that it involves a greater loss of blood. This appears to us a trivial point, for the amount lost in Salmon's operation is small (usually not more than a teaspoonful or two), and this slight loss is often salutary in effect. That it takes longer to perform we very much doubt; in fact, our experience teaches us the reverse. For if H. Smith's operation is at all hurried over, bleeding is more likely to occur, necessitating the application of ligatures, which this operation is planned to obviate. As to post-operative pain, there is a good deal of difference of opinion. We have known no pain at all complained of after the ligature, and, on the other hand, have met with it after the cautery. Indeed, we have known of two patients, at least, who having been in years gone by operated upon with the clamp and cautery, were, on account of a recurrence of their trouble, submitted to Salmon's operation, who both affirmed that they suffered less pain after the second than they did after the first operation.

In most cases of internal hemorrhoids, external piles or tags of skin are met with which require removal. Surely less pain is likely to follow excision of these than their removal by burning; and moreover, there is less likelihood of anal contraction following. Of course, the author has limited his paper to cases of uncomplicated hemorrhoids; but we often have to deal with an accompanying fissure or fistula, in which case there would be no object in operating with clamp and cautery, seeing that both incisions and probably ligatures would have to be employed in the operation for the cure of the complication.

In conclusion, we believe that in general the operation by ligature is the better, certainly in complicated cases, and where the piles are numerous; also in those cases where the surgeon

lives at some distance from his patient, for recurrent hemorrhage is more common after the clamp operation than after the operation by ligature. Where the piles do not exceed two or three and there are no external tags, where the saving of a week or ten days' convalescence is of moment to the patient, and where, moreover, surgical aid can readily be obtained, if necessary, we think operation either by clamp and cautery or by crushing should be the one selected.—*Treatment, April 14, 1898, p. 89.*

87.—OPERATION FOR HEMORRHOIDS.

By T. PRIDGIN TEALE, M.A. Oxon., F.R.C.S., F.R.S.,
Consulting Surgeon to the Leeds General Infirmary.

[The following is taken from Mr. Teale's paper on Detail in Surgery:]

Let me now give a description of the details of the operation itself:—(1) Believing dilatation of the sphincter ani to be, along with tooth-drawing and reduction of dislocation, the kind of proceeding in which chloroform is attended with more than its usual risk, I would urge ether emphatically as the anæsthetic. (2) The lithotomy position, maintained by manacles and Clover's crutch. (3) Commence, as a matter of course, by dilatation of the sphincter ani, which not only brings the hemorrhoids into view, but is a security against spasmodic disturbance of the wound subsequently to the operation. (4) Grasp the most prominent hemorrhoid at each extremity by a volsella forceps, and hold it securely during the operation. This gives the surgeon perfect command, both during excision and whilst completing the operation by suture. (5) Excise the hemorrhoid with curved scissors by marking out and partially dissecting off a shallow flap, firstly, on the mucous membrane side, and then on the cutaneous side, and then excise the hemorrhoidal mass. (6) Having tied any obviously pulsating vessels, bring the two sides of the wound together by continuous suture in the following manner:—Commencing about $\frac{1}{2}$ in. from one end, let a continuous suture of fine catgut be passed rather deeply so as to bring the whole surface of the wound together and to control any oozing that may be taking place. Terminate this suture about $\frac{1}{2}$ in. from the other end of the wound, but neither tie it nor fix it anywhere. On the contrary, secure it for the time being only by clip forceps, after having drawn it tightly enough to stop all hemorrhage. (7) In like manner deal with a second, or even, if necessary, a third hemorrhoid, taking care to leave about $\frac{1}{2}$ in. of mucous membrane between each wound.

(8) Finally, remove the clips from the sutures, which are then cut, leaving about 1 in. protruding at either end. (9) As a rule, the sutures disappear and do not need removal. If they do not, they can be pulled out without difficulty at the end of a few days, having no fixed point. (10) The after-dressing is practically nil. Some cotton wool is placed between the buttocks to absorb any oozing of blood or serum, but no lint or other dressing is introduced into the anus. This is absolute and *de rigueur*.

Advantages claimed for this method.—Having had many years' experience of nitric acid, of clamp and cautery, and of tying with excision, whilst I have had fifteen years' experience of the method just described, I feel that I may claim for the latter the motto, "Cito, tuto et jucunde." *Cito*, if not in the actual operation, at any rate in rapidity of recovery; *tuto*, in the absolute security against hemorrhage and the increased security against septic accidents—not unknown in the old days of ligature—owing to healing by first intention; and *jucunde*, by reason both of the lessened after-pain and of the greatly reduced tendency to retention of urine, the after-pain being often capable of being reduced to insignificance by very careful soaking of the wound before stitching by a strong carbolic solution (1 in 30). I am told that retention of urine is common, indeed, almost expected as a matter of course, where hemorrhoids have been removed by ligature or by cautery. It is comparatively rare after the operation I have been describing, which has also the advantage over Whitehead's of being free from the risk of subsequent cicatricial stricture, and is at the same time equally applicable to any degree of hemorrhoids, however extensive. One may ask how it came about in former days that cautery and ligature were used and not excision. Purely, I believe, from fear of hemorrhage after operation, for in days when dilatation of the sphincter as a preliminary to removal of hemorrhoids was practically unknown, and efficient volsella forceps for holding the cut surface in view were uninvented, the danger was a very real one. An open wound, with a bleeding vessel inside a rectum guarded by a contracted sphincter, used sometimes in those earlier days to produce a hemorrhage at once dangerous and concealed. It was to meet this evil that ligature of the whole hemorrhoid, destruction by nitric acid, and the method of clamp and cautery were invented. But now that we dilate the sphincter, that we have means of holding any amount of hemorrhoid in view, that we arrest the bleeding of visible vessels by catgut ligature, and can bring the cut surfaces into firm apposition by a suture which either is absorbed or can be pulled away after a few days, the need for these more primitive details seems to have not only lessened but entirely disappeared.

—*The Lancet*, May 7, 1898.

88.—THE TREATMENT OF GENERAL PURULENT PERITONITIS.

[The following is taken from Mr. William Swain's interesting summary in the *Bristol Medico-Chirurgical Journal*, December, 1897.]

Senn (*Am. J. M. Sc.*, 1897; *Med. Rec.*, 1897) is strongly of opinion that recoveries from so-called general peritonitis were cases operated upon before the entire serous surface was involved, or where there was a real, though not apparent, limitation of the inflammation. He rightly draws a distinction between general septic peritonitis—in which the patients die so soon after the beginning of the disease that at the necropsy or, if the abdomen is opened during life, at the operation no gross tissue change is found—and acute suppurative peritonitis which results in the formation of pus and is always more or less circumscribed. Although we may regard the former as essentially a streptococcal infection, and the latter as a staphylococcal infection, there is still much room for working out the bacteriology of this class of information, and from this we may expect a more perfect understanding of the differences of the two forms. Most observers agree that the more lymph found in the peritoneal cavity the better the chance of recovery, but that under any circumstances the so-called general suppurative peritonitis is an extremely fatal form of disease, and one in which most of us have been disappointed in our operative results.

McCosh (*Ann. Surg.*, 1897, xxv.), who is a believer in a general suppurative peritonitis unlimited by adhesions, appears, by a more radical procedure than that usually employed, to have saved six cases out of forty-three upon which he has operated—a mortality of about eighty-six per cent. His method is founded on a belief that by cathartics we can best promote peristalsis in the intestinal paralysis which occurs in this condition, and we thus increase intestinal drainage and diminish the danger of the emigration of the bacillus coli communis from the intestinal walls. The plan of treatment which he employs is as follows:—Chloroform is administered, and an incision five or six inches long is made in the abdominal wall over the organ which has excited the peritonitis, and the patient is turned on the side so as to favour the escape of the purulent fluid. Unless there is a great deal of distension or the heart's action is very weak, the intestines are allowed to escape from the abdominal cavity into hot towels held by an assistant. Any cause of the peritonitis which is found is then treated, such as the removal of a gangrenous appendix or suturing perforated intestine. The cavity of the peritoneum

and the intestines are then thoroughly irrigated with normal salt solution. Gallons of fluid at a temperature of 110° to 112° F. are used, and every nook and corner must be opened up by the hands of the operator so that they may be washed with the solution. A considerable amount of this fluid is left in the abdominal cavity for the purpose of stimulating the heart and of favouring intestinal drainage. If there is any difficulty in returning the bowels they must be incised so as to allow flatus to escape, and the incisions are then closed with Lembert sutures. One or two ounces of a saturated solution of sulphate of magnesium are then injected through a hollow needle attached to an aspirating syringe as high up in the ileum or jejunum as can be conveniently reached, and the needle puncture is closed by a Lembert suture. The peritoneal cavity is generally drained by four or more strips of sterile gauze thrust in different directions among the intestines, and supplemented, if necessary, by a large glass tube inserted into the pelvis. The abdominal wound is only partially closed, so as to afford freer exit for the escape of peritoneal secretions. The edges are not closely approximated, but only partially drawn together by two or three silkworm-gut sutures, between which and the intestines is placed a gauze compress. A ten-grain dose of calomel is given on the return of the patient to bed, and rectal stimulation is employed for the first twenty-four or thirty-six hours. The great point in favour of this intra-intestinal injection of cathartics is, that the vomiting which occurs in this disease prevents them being given by the mouth, and when administered by the rectum they are unsatisfactory. Senn speaks well of their use, and further advises the subcutaneous injection of Marmorek's antistreptococcic serum, but Dr. Weir has not had favourable results in the cases in which he has tried sulphate of magnesium injected into the intestines or subcutaneously.

Dr. Finney (*Johns Hopkins Hosp. Bull.*, 1897) also comes forward with a method which he claims has been instrumental in five recoveries. It is based on the well-known power of the peritoneum to absorb and dispose of a relatively large amount of infectious material—a function which he believes to be greatly impaired by the large amount of exudate covering the peritoneum in cases of general suppurative peritonitis. The plan of treatment which he advocates is as follows:—An incision long enough to allow of free access to all parts of the abdominal cavity is made over that part from which the peritonitis is supposed to spring. The coils of intestine are quickly drawn out into warm towels, beginning with those which are most affected, and the peritoneal cavity is then thoroughly wiped with pledgets of gauze soaked in normal salt

solution—especial care being given to the pelvis. Dr. Finney thinks it rarely necessary to flush the cavity with salt solution. Then the intestines which are lying outside the abdominal cavity are similarly wiped with pledgets of gauze from one end to the other, in order to remove the adherent flakes of partially organised lymph. This cleaning process sometimes requires the use of considerable force, and is facilitated by being carried on under a constant stream of warm salt solution. The intestines are then returned, the most damaged portion being returned last so that it may be most superficial and better drained by gauze which is packed around it if necessary. The abdominal wound is then closed, and the calomel followed by salts administered by the mouth and aided by a turpentine enema.

Weir (*Johns Hopkins Hosp. Bull.*, 1897) and Abbe (*Ann. Surg.*, 1897) are opposed to this removal of lymph, and regard its presence as protective. The raw surface which is left is probably also more favourable for infection. This is the view the majority of surgeons would take; but the obvious lesson to be learnt from these two methods—which after all have a great deal in common in their fundamental principles—is, that by a more careful and thorough cleansing of the peritoneum than it has hitherto been considered justifiable to adopt, we may hope to diminish the terrible mortality in this fatal condition.

89.—THE INTRA-PERITONEAL OPERATION FOR ABDOMINAL HYDATIDS BY RUSSELL'S METHOD.

By THOMAS FIASCHI, M.D., Ch.D., Honorary Surgeon,
Sydney Hospital.

[From Dr. Fiaschi's paper:]

In the development of the operative treatment of abdominal hydatids three stages of the progress stand out conspicuously. First is the aspiratory puncture which followed Dieulafoy's invention of the aspirator, and for many years ranked as the best mode of treatment. Second comes the direct incision into the cyst, with attachment of the fibrous portion to the abdominal parieties, extraction of the elastic portion, and subsequent drainage. This is the operation introduced by Lindeman in 1871. This operation, during the last decade, has almost completely taken the place of the aspiratory puncture, chiefly on account of the greater certainty of permanent results and radical cures obtainable. However, the disadvantage of a 10.29 per cent. mortality, high in comparison to that of other

abdominal operations, and the long and exhausting convalescence that follows, have within the last two or three years caused surgeons to pause and scan the horizon in hope that some safer and quicker method might arise. The third is the intra-peritoneal method, first proposed and carried out in 1891 by Mr. Bond, of Leicester. In this the abdominal cavity is opened, the hydatid cyst emptied of its liquid, daughter cysts, and endocyst, then sponged dry, the edges of the rent in the ectocyst sutured, and this left in the peritoneal cavity free without drainage. Numerous cases operated by this method were recorded by various surgeons, successful as regards rapid convalescence and the formation of a good abdominal scar, but presenting a considerable proportion of cases in which the cysts filled up with serum and even pus, and had to be opened again. Great as the advantages of Mr. Bond's innovation are, the suturing of the cyst adds to the difficulty of the operation, and introduces elements of septic danger with the intra-peritoneal suture, and with the possibility of retention of air and exudations in the cyst.

To Mr. Hamilton Russell, of Melbourne, is due the merit of having realised what the chief advantage of Bond's method is, and of having discarded its disadvantages. In a paper published in February, 1895, under the title, "On the future of the Operative Treatment of Hydatid Disease," he strenuously advocated that, in abdominal hydatids, not only should the drainage method be given up, and the cyst not be anchored to the parietes, but that the incision made in the ectocyst for the purpose of removing its contents should be left in the peritoneal cavity unsutured. He supported his suggestion with the following arguments:—"That the profuse serous discharge usually seen in hydatids treated by Lindeman's method is provoked by the drainage, and if this is done away there would be very little serous and even bilious discharge; any that might occur would be poured through the unsutured incision into the general peritoneal cavity, and be rapidly absorbed." For the fulness of these arguments I refer you to his valuable paper; but convincing as they are, I think that many of the surgeons accustomed to operate by Lindeman's method will not be influenced to adopt this bold innovation through the weight of arguments only, and are waiting to know what the results of experience have been. Dr. Charles Ryan published in 1892 notes of one successful case, and other three Australian successful cases have since been recorded. Having given this method a fair trial, I trust that it may not be tedious to you if I will briefly give you an account of the five cases in which I have adopted it.

[Dr. Fiaschi then reports five successful cases.]

Remarks.—I think that we can fairly conclude from these five cases that the intra-peritoneal treatment of abdominal hydatids by Russell's method is not only possible, but that it can be carried out successfully in all kinds of non-suppurating hydatids, no matter how large or old. I consider the fourth case to have been a most crucial test for this method, as the cyst was large and old, with a thick and calcareous adventitious capsule. The advantages of this method are:—(1) Rapid and painless recovery, which stands in marked contrast with the tedious convalescence following Lindeman's method. No obstinate, slowly-healing sinuses are left behind; no weak scar remains. (2) Rapidity of recovery means less danger of exhaustion, a danger with which one has to reckon in cases of patients much debilitated. I believe, from previous painful experience in similar cases, that, had the fifth case been operated by Lindeman's method, she would have succumbed. (3) Less danger of septic infection; because, no matter how vigilant the surgeon may be, a cavity communicating with the air, discharging highly decomposable liquids, and requiring daily dressings, is much easier inguinated by septic germs than a closed wound, which at the end of eight or ten days is practically healed. And in coming to this conclusion I have quite in mind the fact that, in the *Australian Medical Journal* for September, 1895, a case was recorded in which death occurred after Russell's method from acute sepsis, three days after operation, and that a similar case has occurred in our city also. This very serious question cannot be definitely settled until more extended statistics are gathered, but to my mind it is much easier for a surgeon to guard against the introduction of septic organisms during an operation than to have in addition to guard against septic poisoning in daily surgical dressings, many of which are not done by himself, and are quite beyond his control. (4) Another great advantage of Russell's method is the possibility of treating hydatid cysts of the convex surface of the liver and of the upper surface of the spleen with much greater safety and ease.

The third case, though not completely a Russell, because the drainage tube was kept in the cyst for the two first days after operation, is near it enough to reveal what can be obtained in such cases. All surgeons who have had experience of hydatid cysts in the convex surface of the liver agree that these cannot be well cleaned and emptied, unless the opening is made through the thoracic walls. How much better then to drop the adventitia in the abdominal cavity, and to completely close up your diaphragmatic and pleural incisions, than to drain through the pleural cavity. This class of cases seems to me the one that will particularly feel the benefit of Russell's innovation. The only

disadvantage that I can see is the risk of acute septicæmia, which, once developed, might prove rapidly fatal. Such risk no doubt exists, but, in my opinion, it should not act as a deterrent from this mode of treatment, being a risk coming within the number of preventable surgical dangers. The possibility of it merely means increased vigilance on the part of the surgeon in carrying out his operation scrupulously aseptic, and also careful selection of cases, avoiding those in which a septic process is already established. Whilst admitting that in my practice I have carefully avoided to perform Russell's method in suppurating cases, I have tried even in these to secure the advantages of it by doing away with the drainage tube as soon as I was satisfied that suppuration had stopped. This year I have had in hospital two cases of suppurating abdominal hydatids. These, after having been emptied, I syringed out thoroughly with carbolic lotion, 1 in 40, paying attention to prevent its entrance in the peritoneal cavity, then sponged thoroughly out the adventitious capsule, and attached it to the wound according to Lindeman's method. Finding, however, that in the following three or four days there was no discharge of pus and no temperature, I removed the drainage tube, and, keeping the abdomen well compressed with suitable pads and a tight bandage, I allowed the wound to heal undrained. Both cases did well and healed rapidly.

In conclusion, I would emphasise that very strict asepsis is essential.—*Australian Medical Gazette*, January 20, 1898.

90.—OPERATION ON THE DUCTUS CHOLEDOCHUS.

By Dr. LANGENBUER.

For this purpose the author divided the duct into four portions: (1) The nude part; (2) the part retro-duodenalis; (3) the pancreatic, and (4) the interstitial. The duct might be reached in two ways, either from the liver, in which the duct was sought through the gall-bladder, following the cystic duct to its entrance into the choledochus, or by way of the pylorus. For this purpose he made a transverse incision through the abdominal walls, reached the lower border of the liver, drew out the pylorus to the left, passed behind this with two fingers towards the duodenum, then passing behind the pancreas, and from here came upon the choledochus, and could extract the calculus by a longitudinal incision. The choledochus was not now sutured, but a drainage-tube filled with gauze was introduced into the hepatic duct, and by which for the next four days the

whole of the bile was conducted. In this way, opening of the gall-bladder was avoided, which he feared, as the contents in consequence of inflammation of the wound were generally infectious. He showed three cases of calculus of the choledochus that had recovered that had been recently operated on in this way. Two of the patients were women and one a man, who had all been admitted with symptoms of closure of the duct. In the first case the stone was loose, in the second it was so firmly fixed in the duct that it was only with difficulty that he could push it into the duodenum by means of a sound, and in the third case it lay within that part of the duct that ran within the intestinal wall. All the three patients had been a long time ill and were very much reduced, but they recovered with surprising quickness after operation.

In connection with these cases Mr. Nasse showed a preparation of purulent cholangitis which had developed in consequence of closure of the duct. In consequence of high fever and suspected calculus of the choledochus he had performed laparotomy, and had found the gall-bladder and its passages of exit filled with a purulent fluid, and at the point of entrance into the duodenum a nodular tumour the size of a cherry. He also found small abscesses in the liver. After the cholecystotomy the condition improved, the bile discharged again, but the patient died from cardiac weakness.

Hr. Körte reported on two cases of calculus of the choledochus on which he had operated. In both cases he had laid the parts open by an incision along the margin of the ribs and lifting the liver upwards. The operation was very difficult, but he finally succeeded. One case had been but recently operated on and was still under treatment. He advised draining of the gall-bladder for a short time in all cases of operation for biliary calculus.

Hr. Israel thought it advisable to pass a drainage tube into the choledochus only, as in case of shrinking of the gall-bladder, when it was difficult to insert a drainage tube; in other cases to suture the tube, as in association with operation for gall-stones, when the patient was jaundiced, dangerous hemorrhage might occur, the origin of which might not be readily found, such an accident being favoured by drainage. He had lost a case in this way through fatal hemorrhage.

Hr. Lindner was not in favour of the transverse incision. He was never afraid to suture the duct, and considered drainage unnecessary. The escape of a few drops of bile into the abdominal cavity did not do any harm.—*Medical Press and Circular, March 9, 1898.*

ORGANS OF URINE AND GENERATION.

91.—A METHOD OF EXPOSING AND OPERATING
ON THE KIDNEY WITHOUT DIVISION OF
MUSCLES, VESSELS, OR NERVES.

By A. W. MAYO ROBSON, F.R.C.S. Eng., Senior Surgeon to the
General Infirmary at Leeds, &c.

[The following is taken from Mr. Mayo Robson's paper. The details of the cases are omitted; they were all successful.]

The late Greig Smith used to insist on the importance of opening the abdomen in the course of the muscular fibres as much as possible so as to avoid the weakness that is apt to follow on division of muscle, but I can find no evidence in his writings, nor did I gather in my many conversations with him, that he had conceived the idea of exploring the kidney on this principle. Dr. McBurney's method of exposing the vermiform appendix, which I have employed on numerous occasions with great satisfaction, suggested to my mind the possibility of exposing the kidney in a similar manner, and it was not until I had performed a number of operations by the method I am about to describe that my attention was drawn to a paper by Dr. Abbé in the Transactions of the New York Surgical Society, in which he describes a case of nephrectomy performed on the same principle. Seeing that the operation is one which from ample experience I have found of great utility in all operations on the kidney, I have no hesitation in describing it and recommending it to the notice of other surgeons. The incision beginning to the inner side of the anterior superior spine of the ilium is carried backwards obliquely towards the tip of the last rib. The fibres of the external oblique and its aponeurosis are then split and retracted, exposing the internal oblique muscle, the muscular fasciculi of which are split in a line between the ninth costal cartilage and the posterior superior spine of the ilium, in which position they are longer than in front of or behind that line. When the fingers are pushed through the internal oblique to split it the fibres of the transversalis are pierced and can be retracted along with the oblique muscle. A diamond-shaped space is thus formed, at the bottom of which is seen the transversalis fascia, which is then incised, exposing the peri-renal fat, and on pushing the fingers through this the kidney is easily reached in whatever position it may lie. If needful the whole hand may be introduced into the peri-renal space and the kidney can be grasped and freely manipulated,

the retractors for the moment being withdrawn. If the vessels are moderately long, and in all cases of movable kidney, the organ may be brought through the wound and explored by incision or by needling, or it may be examined by the selenium screen and the Roentgen rays. Should a calculus be found it can be extracted and the wound sutured before the organ is returned.

As in Cases 1, 2, 3, 4 and 5, should no calculus be found and no disease involving further operation on the kidney, the ureter can be explored even to its termination in the pelvis by an extension of the opening downwards and by means of a search light. When the peritoneum is well retracted the tube may be seen along its whole course, as in Case 6. Cases 7, 8 and 9 afford other examples of negative exploration. If the disease prove too extensive for simple nephrotomy it is quite easy to ligature the pedicle and perform complete nephrectomy, as in Case 10. In case the disease of the kidney is only partial the complete exposure enables a conservative operation to be done, as in Case 11 (partial nephrectomy). After all necessary manipulations on the kidney have been effected, the kidney, if not removed, is replaced, or if not disturbed from its bed is left *in situ*. The cavity is then sponged out, and on withdrawing the retractors the muscles at once fall together, and may, if thought desirable, be sutured with two or three interrupted catgut sutures, the skin incision being brought together by interrupted silkworm gut sutures. As a rule, not a single ligature is required, as there is no bleeding. The advantages of this method of exploring the kidney are obvious. (1) There is no division of muscle, and therefore no weakening of the abdominal wall immediate or remote. (2) No vessels are divided, thus not only saving time but rendering healing *per primam* more likely. (3) No nerves are severed, and therefore paralysis of the rectus and other muscles is avoided. (4) The operation is done with the patient lying on the back, to the great convenience of the anæsthetist, the operator and his assistants, and to the manifest advantage of the patient, who is saved much unnecessary disturbance. (5) The great saving of time as well as the diminution of hemorrhage means lessening of shock, thus rendering operation feasible when it otherwise might be questionable. (6) It is an important fact that diagnosis in kidney cases, especially in renal calculus, is by no means perfect, and if it can be proved that an exploration of the kidney can be done quickly with little or no danger and without any subsequent weakness being left, the physician will be less loth to permit, and the surgeon to perform, an exploratory operation after all other means have been fruitlessly tried. (7) Lastly, after such an operation convalescence is materially

shortened as the patient may be safely allowed to be up at the end of the second week or even earlier, since there is no fear of the wound giving way.

I may take this opportunity of saying that wherever I can when operating away from the middle line of the abdomen I make use of the principle of splitting instead of dividing muscles—for instance, in gastrostomy, in inguinal colotomy, in typhlotomy, sometimes in cholecystotomy, and nearly always in removal of the vermiform appendix. I would also point out that if it be found necessary to extend the opening—for instance, in case of operation on the ureter—deeply in the pelvis it is easily accomplished by departing slightly from the principle here advocated, and dividing the deep plane of fibres and further splitting the external oblique towards Poupart's ligament. The internal oblique will then require suturing to bring together the divided edges. In this way the ureter, even to its entrance to the bladder, may be fully exposed to sight as well as touch, as in a case which was witnessed by my colleagues, Mr. Teale and Mr. Ward, who will, I feel sure, bear me out in my statement as to the efficiency of this method of exploration. I could relate a greater number of cases on which I have operated, but I think that those I have given will be sufficient to serve as examples.—*The Lancet*, May 14, 1898.

92.—A CASE OF NEPHRECTOMY FOR RUPTURED KIDNEY.

By BERKELEY G. A. MOYNIHAN, M.S. (Lon.), F.R.C.S. (Eng.),
Assistant-Surgeon, Leeds General Infirmary.

[The clinical details of Mr. Moynihan's successful case in a boy aged 10 have had to be omitted here, as well as some other parts of the paper.]

Up to within a very few years it was generally held that any traumatic lesion of the kidney could only be treated by rest, the local application of ice-bags and pressure, and the internal administration of various styptics. In fact, at the present time surgical interference is generally relegated, even if at all entertained, to the time when the gravity of the symptoms points to a speedy termination of the life of the patient from hemorrhage or from septic changes in the extravasated blood. It is partly with the object of showing that, even in what we are used to call "desperate" cases, surgical measures are not unavailing, and partly for the object of pleading for the earlier adoption of surgical treatment, that I venture to bring this case to your notice. On examining the specimen it was seen that the kidney

was torn completely into two parts, the rent extending into the ureter. Over the whole surface of the kidney, but more especially over the upper portion, were seen minute stellate fractures of the surface, showing the violence to which the whole organ had been subjected. In a case such as this there are two chief signs upon which we are mostly accustomed to rely for information as to the nature and extent of the injury, and for guidance as to the probable issue of the case. These are first, hæmaturia ; second, the existence of a lumbar swelling.

(1) Hæmaturia is an entirely unreliable symptom, and one the importance of which is very usually over-estimated ; for bleeding may occur after an abdominal injury without there being any kidney injury at all. Hemorrhage may also persist for some time and be almost alarming in quantity when the rent is intra-renal, involving only the base of a pyramid or a small area on the surface of a calyx, and therefore quite trivial. On the other hand, bleeding may be absent altogether, or present only on more or less infrequent occasions, when the kidney is seriously lacerated almost beyond recognition. In these latter cases the absence of this sign may be due either to a plugging of the ureter, which is most usual, or to thrombosis of the vessels of the kidney, as is recorded by Waguer, or in fewer cases, to a complete transverse rupture of the ureter near its commencement. Obviously, then, a symptom which is so erratic, so variable in proportion to the severity of the wound, and consequently so misleading, cannot avail us much as a guide to our treatment.

(2) The existence of a lumbar swelling. This sign is of vastly more importance and in every respect more dependable. The swelling is formed as the result of hemorrhage beneath the capsule of the kidney, or, more commonly, by bleeding or the extravasation of urine, or both, outside and beyond the limits of a torn capsule. It is a sign which tallies well with the extent of the kidney wound and which gives us more precise knowledge as to the necessity of operative interference. If the swelling forms early, and swiftly increases, there can be no doubt that exploration is at once and promptly called for. As Mr. Henry Morris aptly says, "operation under these circumstances is the only way to cut short the progress of the case, to limit the extravasation, to check or prevent suppuration, to prevent sloughing of the peritoneum, and to save the life of the patient." Such a swelling, as I have remarked, is due either to blood or to a mixture of blood and urine. If the former, no other treatment but a surgical one can stop the hemorrhage, remove the blood clot, and thereby relieve all the various pressure effects on kidney, ureter, vessels and surrounding parts. If the latter, an incision, followed by drainage, is all that can be done to

prevent the onset of a dangerous septic infection with its attendant rigors, fever, extensive and widespread suppuration and probable death.

If, then, guided by these two symptoms, but chiefly by the latter, we are, in the future, the more readily to adopt surgical measures, what are the chances of success open to us as contrasted with the older method of comparative inactivity? I have gone over statistically the cases published during the years 1878 to 1896 (collected by Dr. George W. Spencer), aggregating 117 in all. In basing any deductions upon them we must, of course, bear in mind the faults and fallacies of all such collections of cases, published in isolation. So much depends upon the reporter, and a successful case is almost always noised abroad, whereas the memory of one less fortunate and happy in its termination is often buried with its object. To very briefly sum them up the result works out as follows:—Of all cases treated expectantly the mortality was 42·4 per cent.; of all cases treated by early nephrectomy the mortality was 20 per cent.; of all cases treated by late nephrectomy the mortality was 38·5 per cent. Early nephrectomy was performed for hemorrhage and shock, and late nephrectomy when septic changes had set in. When it is remembered that, in all likelihood, those cases subjected to nephrectomy were the more serious ones, the proof in favour of operation seems to be overwhelming. If, then, the risks of nephrectomy are so comparatively slight, we shall feel more confidence in operations earlier undertaken, where suture or partial excision, as practised by Keetley and Bardenheuer (both of whose cases were successful), will suffice to render the kidney whole. Although I do not wish to lay any stress upon these statistics, I think that they undoubtedly give support to my contention that in many cases operation offers the best and speediest chance of recovery. In suturing a rent in the kidney, in removing a portion or the whole of a kidney, damaged beyond recovery, we are only carrying out the usual, time-honoured surgical procedures which guide our conduct elsewhere; and the diffidence that has hitherto existed in dealing with severe traumatism when affecting this organ seems almost inexplicable. I cannot do better than quote here the words of a distinguished American surgeon, Dr. W. W. Keen, who, in a recent article, says, “The great mass of recoveries in rupture of the kidney are the slighter cases; the grave ones do not recover unless an operation is undertaken. In any case, therefore, with severe or dangerous symptoms, the surgeon should lean towards exploration and appropriate subsequent treatment. It will add little to the risk, and will probably save a considerable proportion of lives.”—*Quarterly Medical Journal*, April, 1898.

93.—SURGERY OF THE URETER.

Catheterisation of the Male Ureters.—Fenwick (*British Medical Journal*, January 15, 1898) says that catheterisation of the male ureters has now been in active use for two years, and that with practice it presents but few difficulties. There are several instruments on the market, most of them being modifications of Nitze's and Casper's instruments. Fenwick prefers Casper's, since by it the point of the catheter can be manipulated through a considerable angle, and thus more easily made to enter the mouth of the ureter. A few seconds after the ureter has been entered urine begins to drop from the catheter. It is well to excite a flow of urine by giving plenty of fluid some time before the operation. Fenwick recommends half a bottle of Contrexéville water an hour before. If the urethra be tolerant, the examination may be conducted under cocaine; if a general anæsthetic be necessary, he prefers chloroform to ether. The detection of the mouth of the ureter may be aided by staining the urine with aniline drugs; the best is $1\frac{1}{2}$ grains of fuchsin, given in pill an hour before the examination. In females the renal pelvis and the ureter may be sounded for stone through the bladder, but in males this procedure presents very considerable difficulties.

Injuries of the Ureter.—Morris (*Edinburgh Medical Journal*, January, 1898) divides these injuries into three classes—(1) Subparietal injuries, in which there is no open wound; (2) penetrating wounds; (3) surgical wounds, accidentally or intentionally inflicted, including injuries during labour. The peritoneum may or may not be injured. In Class 1, as a rule, it escapes; in Class 2 it is usually opened; in Class 3, excepting when the injury is produced by obstetric instruments, it is almost always involved. The author deals only with the first class of injuries, 23 examples of which have now been placed on record. A close examination, however, shows that 12 of these cases are in reality injuries of the parenchyma or pelvis of the kidney. Of the remaining 11 cases, two were verified cases of rupture; four were probable cases of rupture, with extravasation of urine; and five were cases of contracted ureter, with hydronephrosis, &c., probably due to ureteral injury. An analysis of the eleven cases elicits the following facts:—(1) The cause was in most cases a severe crush of the trunk. (2) The peritoneum was injured in one only, and in five there was a large retroperitoneal accumulation of urine, without giving way of the peritoneum. (3) The age of the patient was under 30 years in all cases save two; in one the age was not recorded. (4) The rupture may be complete or incomplete. (5) The symptoms are not characteristic: hæmaturia may be present or absent; the most

constant symptoms are local pain and tenderness, ecchymosis, and in some cases swelling from accumulation of urine behind the peritoneum. The retroperitoneal swelling may not make its appearance for some days or weeks after the accident. (6) The prognosis is not unfavourable except when the peritoneum is injured.

Treatment.—Puncture of the retroperitoneal cyst is merely a temporary measure. A lumbar incision should be made, and, if possible, the divided ends of the ureter should be found and sutured. Failing this, the upper end of the ureter should be brought out through the wound. In certain cases nephrectomy will be necessary. The paper concludes with details of the 11 cases.

Winslow (*Annals of Surgery*, January, 1898) records two cases of injury to the ureter during hysterectomy, which were successfully treated by suture. In one the ureter was partially, and in the other completely divided. In the case of complete division one end of the divided ureter was invaginated into the other end.

Excision of the Ureter, Partial and Complete.—Morris (*The Lancet*, January 1, 1898) refers to the fact that the ureter not infrequently gives rise to persistent discharge after excision of the kidney. Hence its removal is sometimes advisable, either at the primary or as a secondary operation. Complete removal of the ureter presents greater difficulties in the female sex, because of its relations to the ovarian and uterine vessels and the broad ligament. The operation is entirely retroperitoneal. Three cases are recorded:—(1) Renal tuberculosis; removal of kidney and four inches of ureter; death from acute bronchitis five days after operation. (2) Tuberculous kidney and ureter; intracapsular nephrectomy; subsequent removal of renal capsule and ureter as far as entrance to broad ligament; recovery. (3) Tuberculous kidney; removal of upper third of kidney, followed after eight months by complete nepho-ureterectomy; recovery. In the last case an incision was made from a little below the last rib, just outside the erector spinæ, downwards and forwards to the neighbourhood of the internal abdominal ring.

Removal of Calculi from the Ureter.—Fenwick (*Edinburgh Medical Journal*, March, 1898) recommends the following routes for dealing with calculi impacted in the ureter:—In upper third of ureter, ordinary lumbar incision; near the pelvic brim, common iliac artery incision; below the pelvic brim, perineal or vaginal incision. He says that the best route for removal of stones in the lower third of the ureter has not yet been definitely settled. In several cases the abdominal incision for ligature of the common iliac artery has been successfully used. If the

stone can be detected by vaginal or rectal examination it can be easily and safely removed through a transverse perineal incision in the male, and by an incision through the vaginal roof in the female. Details of two cases, illustrating these methods of removal, are given.—*Mr. J. E. Platt's summary in the Medical Chronicle, March, 1898.*

94.—STERILISATION OF URETHRAL INSTRUMENTS.

By Dr. EDWARD MARTIN.

[Dr. Martin read this paper before the New York Academy of Medicine :]

The author said that when the catheter was required the conditions were usually peculiarly favourable to infection. The ideal conditions for catheterisation would be a clean, supple, well-lubricated instrument of appropriate calibre, passed by sterile hands through a sterile urethra into a normal bladder. In the first place, the instrument should be so constructed as to be free from blind pockets for the collection of filth. The most dangerous part of the ordinary catheter was the blind space beyond the eye ; hence only catheters provided with a solid head should be used. The internal surface of the catheter was rarely even approximately smooth, and for this reason the difficulty of sterilising the interior was enormously increased. It was worthy of note that the soft-rubber catheters were the smoothest. The mechanical cleansing of a catheter was best accomplished by warm soapsuds injected into the catheter immediately after use. After soaking, the instrument should be washed in freshly boiled water ; the water within the instrument was then "swung" out, and the catheter placed in an oven for a few minutes to dry. All soft instruments stood well this process of mechanical cleansing. Sterilisation might be accomplished with heat or with germicidal drugs. Dry heat had been tried by him, but it had hopelessly ruined the catheters, and the same was true of steam. Boiling, however, acted more satisfactorily, and if not continued for more than five minutes the better-grade catheters were not injured, and were rendered sterile. The cheaper catheters were damaged by such boiling, but the rubber instruments seemed rather to be improved by it. This process of sterilisation was adapted to the needs of the layman, and the catheter could be stored in a sterile cloth. Alcohol and carbolic acid quickly destroyed the finish of a catheter. Any gum catheter would lose its lustre, even if soaked in alcohol for only one minute. Antiseptic soaps had seemed to open up a very promising field, but his

experiments had shown them to be entirely useless. Another easy method of sterilisation was that by the vapour of mercury. The washed catheters were placed in a closed compartment containing metallic mercury, either exposed in a shallow tray or in a finely divided state in a flannel. An exposure in this way for fourteen hours, it was claimed, would completely sterilise the catheters. However, his experiments and those of others had shown that reliable sterilisation could not be obtained unless the exposure was about five times as long. A convenient and efficient method of sterilisation was by the use of a tight box with shelves for the catheters and a compartment containing paraform powder. Culture experiments had proved the method to be exceedingly satisfactory, but an exposure of eighteen hours was insufficient, and in the case of instruments of fine calibre the results were unsatisfactory even after twenty-four hours. Even unwashed catheters of moderate calibre were rendered absolutely sterile by an exposure of forty-eight hours in the paraform box. The method was simple and reliable, and provided for the aseptic storage of the instruments. The vapour was found to be slightly irritating to the mucous membrane of the urethra when the instruments were used. The formaldehyde process had been found completely satisfactory for the sterilisation of the instruments of fine calibre, such as ureteral catheters. The vapour should be passed directly through the catheters. The formaldehyde was conveniently kept in a tube under pressure, and by unscrewing a cap the vapour could be injected in a concentrated form into the catheter. A few seconds had been found amply sufficient to sterilise the interior of even the fine catheters. It should not be forgotten that the lubrication and the introduction of a catheter were often the means of causing infection. It was a good plan for the operator to wear sterile cotton gloves, changing them for each case. The penis having been passed through a hole in a sterile towel, the meatus should be syringed out with salt solution.—*Medical Record*, November 13, 1897.

95.—VESICAL AND RENAL PYURIA.

By HOWARD A. KELLY, M.D., of Baltimore.

[The following is taken from Dr. Kelly's paper on "The Sources and Diagnosis of Pyuria":]

The vesical sources of pyuria are three in number:—(1) Cystitis and trigonitis; (2) foreign body, and (3) ulcer. All of these various affections may readily be diagnosed by examining the bladder through a simple cylindrical cystoscope, with the patient in the knee-chest posture, under which condition the

bladder becomes distended with air. A small electric head-light or an electric light is held close to the sacrum and the rays reflected by an ordinary head-mirror into the bladder, when this viscus may easily be examined. I wish to call particular attention to the fact that it is important in order that the base of the bladder may be satisfactorily inspected to let air into the vagina before dilating the bladder. This brings the floor of the bladder almost into the plane of vision, and makes the trigonum easily accessible. Ulcers are most apt to be found here, and an inflammation localised in this neighbourhood—a trigonitis—is the commonest form of localised cystitis.

Extravesical Sources of Pyuria.—There are several extravesical sources of pyuria, the commonest being those connected with inflammatory diseases of the Fallopian tubes, of which I have observed a number of instances. In one of my cases a small tuberculous abscess broke into the right horn of the bladder near the base of the broad ligament, while all the rest of the urinary tract remained unaffected. I discovered its presence by means of the red mammillated œdematous mucosa surrounding the concealed opening, from which, during examination, a bubble of air escaped, and when I introduced a searcher at this point its withdrawal was followed by the escape of pus. A rarer avenue of entrance is by the adhesion of a suppurating tumour to the free peritoneal surface of the bladder, subsequent to which perforation occurs. I shall not pause longer to dwell upon examples of abscess originating in extra-uterine pregnancy, or acetabular, or psoas-abscess, or an abscess from the vermiform appendix, also emptying in this way, or the intense cystitis evoked by an intestinal fistula, or a carcinoma extending from the uterus.

The Ureters.—If a direct examination and analysis of the evidence presented does not reveal a source of the pus in the lower urinary tract, the whole upper urinary tract still remains to be investigated. May the source, and often the nature of a pyuria originating in a ureter, pelvis of the kidney, or the kidney itself, be easily determined? This may be accomplished with facility in two ways, both of which depend upon the fact that the turning of the vesical speculum about thirty degrees to the right or to the left, and dropping the handle so as to bring the floor of the bladder into view, will readily afford a good view of a ureteral orifice. Too much has been said about the difficulty of doing this. It is not difficult; it only requires practice. I have just said that there are two ways of locating the source of a pyuria above the bladder. When an abscess breaks through into this viscus from any of the extravesical sources just pointed out the opening through which it discharges is always plainly indicated by an area of intense congestion; in

like manner, when the pus comes down one of the ureters into the bladder, in many instances, the ureteral orifice of that side is intensely reddened, mammillated, or even ulcerated. The second way consists in determining at just what point in the upper urinary tract the infection is located, by passing ureteral or renal catheters so as to investigate the entire length of the ureter and the pelvis of the kidney. I have located in this way the source of a pyuria in a pyo-ureter due to a gonorrhoeal stricture at its vesical end, and when I succeeded in passing a metal catheter through the tortuous stricture 150 cubic centimeters of pus at once escaped. I have located the infection in a tuberculous pyo-ureter where the pus had accumulated above a stricture near the brim of the pelvis. I located another in a pocket above a stricture in the upper third of the ureter and the patient recovered after its evacuation and the dilatation of the stricture.

Renal Pyuria.—Finally, we have to distinguish, in the absence of any source of contamination below, those pyurias (a large group) which have their origin in the pelvis of the kidney, usually associated with an obstruction at the renal opening of the ureter, causing the pus to damp up in considerable quantities. This obstruction may be due to a catarrhal puffy mucosa of the renal pelvis, or to an oblique entrance of the ureter into the pelvis causing its compression as the latter distends, or to a rotation of the kidney, which twists the ureter, or to the obstruction caused by a stone or a new growth which plugs the orifice, or to the fact that the pus is too thick to readily escape down the small ureteral channel. The source of the pus may be readily distinguished by passing a long renal catheter, which enters the pelvis of the kidney and permits of its slow escape. If the pus is too thick to run out of the narrow lumen of the catheter, it may be sufficiently thinned by injecting some boric-acid solution, and in some cases even assisting the mixture of the fluids by manipulating a large kidney between two hands. By repeated washings in this way all the pus will be evacuated. The nature of a pyelitis of this sort must be determined by a bacteriologic examination of the pus, by an investigation of the history to determine whether the patient has had any previous hydronephrosis, and by a further examination to detect the presence of a calculus. I find that some cases of intermittent pyonephrosis are due to the unsuspected existence of a hydronephrosis of a low grade, the pelvis of the kidney containing at the utmost not more than from ten to twenty cubic centimeters of fluid. Following some undetermined cause or an attack of grip, or other depressing illness, the patient has a chill followed by high fever and general aching with more or less pain in the loins, associated with the

appearance of pus in the urine. After washing out the kidney the symptoms all subside, but a simple hydronephrosis remains. When there is a stone in the kidney the use of the catheter may bring down a little black *débris* which sinks to the bottom of the vessel, and should always be looked for. A bit of the stone may stick in the eye of the catheter, or best of all, if the end of the catheter is coated with a mixture of dental wax and olive oil, the soft polished surface of the wax will be scratched by contact with the stone, and the scratch marks may be seen by examining the wax with a low-power lens. Other sources of pus in the urine are from tuberculous or other abscesses of the kidney substance itself, discharging into the pelvis of this organ and thus into the ureter. When tubercle bacilli are found in urine taken from the upper urinary tract, it almost always indicates a tuberculous affection of the renal substance. In rare instances a perinephric abscess, such as a suppurating hydatid cyst, breaks through into the renal pelvis, and so finds its exit from the body through the urethra. In all cases of renal origin the diagnosis will be made, and in some the exact cause determined, by using the ureteral catheters as recommended.—*Medical News*, December 11, 1897.

96.—REMARKS ON IMPACTED URETHRAL CALCULI IN CHILDREN.

By ARCHIBALD CUFF, B.A., B.C., F.R.C.S.,

Resident Medical Officer to the Sheffield Royal Infirmary.

[The details of two cases are omitted here.]

The impaction of a stone in the urethra of a male child is a by no means rare event, and is undoubtedly the most common cause of retention of urine in such children. These urethral stones do not originate in the urethra in children, but have at any rate their nucleus formed in the renal substance, and then, with or without having their bulk added to in the bladder, whither they descend, pass out into the urethral canal. This is illustrated by the case of a small boy, aged 4, who has been under my care on three separate occasions with an impacted stone in his urethra. Some days before each impaction he suffered from considerable pain in the left kidney region and in the left iliac region, which his mother relieved by hot fomentations applied to these parts. Of necessity these stones are of small size, or they would be unable to pass into the urethra. Their shape is most often oblong or oat-shaped, and they measure half to two-thirds of an inch in length, and are of

varying breadth. In colour they are most often brown or a dark-slate grey, with a smooth surface and rounded contour. When covered, however, with a thin coat of blood or phosphates they are rough and may be irregular. Most of these stones are composed of uric acid or of urates, but stones composed of oxalate of lime are not unknown. When in the bladder they get floated on to the internal orifice of the urethra, irritation of the sensitive trigone with vesical tenesmus is set up, and in the consequent passage of urine the stone gets carried into the urethra. Complaints of pain during micturition and referable to the penis and perinæum, may have been present hours or even days before the stone finally gets carried into the urethra, and blood may have made its appearance with the final drops of urine. The commonest site of arrest of these stones is in the urethra just behind the glans penis; this is the narrowest part of the urethra. Another not uncommon place is the junction of the membranous and bulbous urethra, or a little forward of this place.

The immediate effects of impaction are retention of urine, vesical tenesmus, and acute pain in the perinæum or penis. The remote effects, if the condition is not quickly relieved, are most disastrous: ulceration of the urethra and suppuration in its walls about the stone, rupture of the urethra and extravasation of urine, with its possibly dangerous sequelæ, and atony of the bladder, are the results to be feared. Rupture of the urethra in a child may take place behind an obstruction with surprising suddenness and rapidity, and quickly lead to sloughing of the parts and possibly death of the patient. The symptoms of an impacted urethral stone are, the constant endeavours to pass urine and the inability to do so. The penis, generally turgid and it may be œdematous on account of the pain, is found grasped by the hands of the fretful or crying child. The outline of the distended bladder can often be seen in the abdomen rising above the pubes and extending up to or beyond the level of the umbilicus. By palpation and percussion one gets further evidence of the distended state of this organ. On examining the penis or perinæum the offending body can nearly always be felt, readily so if it is in the penile portion of the tube, as a more or less distinct hardness if it is in the deeper part of the canal. On the passage of a catheter, preferably a soft one, the resistance met with on some part of its course sufficiently confirms the diagnosis. Under no circumstance should a urethral stone be pushed back into the bladder.

The diagnosis of this affection from the history, symptoms, and physical examination, should be sufficiently simple. A traumatic rupture of the urethra might have certain points of similarity, but here a consideration of the history of the case

and the results of the examination of the parts affected would clear up matters. The treatment of these cases consists in the removal of the stone. If this is situated near the meatus, the enlargement of the orifice, after the administration of an anæsthetic, will usually permit of the stone being grasped by suitable forceps, sinus or dressing forceps answer admirably, and removed. If, however, the stone be too large to permit of its extraction easily in this manner, or if it lie too far down the urethra for this, there should be no hesitation in making an incision of suitable size over the stone and removing it. The wound should then be accurately closed with fine silkworm gut sutures, passed so as to penetrate and bring together the sub-mucous coat of the canal as well as the skin of the penis. These can be removed in four or five days. A catheter should be retained in the urethra for the first forty-eight hours. It used to be stated, and is so now in some text-books, that incision of the penile portion of the urethra was likely to result in a fistula, but this is not to be feared if immediate and careful suturing be adopted. If the stone be impacted in the deeper parts of the urethra, as at the membrano-bulbous junction, it should on no account be pushed back into the bladder, as this step would mean the subjection of the child to either a lithotomy or else to a lithotripsy, for which very special sizes of instruments would be required. In such a case an incision should be made in the middle line of the perinæum, cleanly opening the urethra, and of sufficient size to extract the stone easily. After its removal the urethra should be closed by a series of fine catgut sutures, and over it the skin and overlying tissues brought together by means of silkworm gut sutures. Collodion and iodoform are then applied to seal the wound, and a catheter is left in the bladder for forty-eight hours or so.—*Quarterly Medical Journal, January, 1898.*

97.—THE OPERATIVE TREATMENT OF CANCER OF THE BREAST.

The advance of our knowledge in respect of medical or sero-pathic means of checking or relieving cancerous growths has not as yet been such as to diminish the interest attaching to the surgical treatment of this malady. Even in regard to this line of treatment surgical opinion varies extremely, some surgeons taking a sombre and discouraging view of the value of their intervention, while others, and they are happily in the majority, point to numerous instances of prolonged, and more rarely of permanent, immunity after operation for removal of the growths

together with all other structures recognised or suspected to be involved in the disease. Statistics bearing on the subject are exposed to many sources of fallacy. What we really want to know at present is, whether the good results admitted to have been obtained with the old and comparatively restricted operation can be bettered, be it ever so slightly, by the wider and more sweeping operations which are now *à la mode* in dealing with cancerous tumours of the breast. Such large operations were virtually impossible in pre-antiseptic days, and it is open to question whether even now they do not materially enhance the operative mortality. It has been urged, not without some show of reason, that cases which imperatively call for wholesale removal of the pectoral muscle and the clearing out of the axilla, even to its connective tissue, are cases which might advantageously be left alone. This suggests a source of error which may creep into the statistics, viz., that the modern operation enables and tempts surgeons to enter upon the surgical treatment of cases at a stage far too advanced for any intervention to hold out much hope of curable results, thus discrediting the procedure which, applied to cases of average severity, might conceivably reduce the proportion, or at any rate postpone the advent of recurrences. Considerable objection was taken at the discussion on Mr. Sheild's paper, before the Royal Medico-Chirurgical Society, to the use of the term "cured," as applied to persons who have remained free from recurrence for three years after operation, and a glance at the tabulated list of recurrences is sufficient to demonstrate the fact that the term is more or less misleading. Some pessimistic surgeons go the length of asserting that cancer is never cured, that sooner or later it is bound to recur, if not in one part of the body then in another. There may be some truth in this view, but only in this sense that it might be applied to such a disease as pneumonia, for example. Indeed, it would be disastrous if this pessimistic view, the high Calvinism of surgery, as Mr. Butlin termed it, were to become general. It would discourage patients from submitting to any operation, and it could not but have a demoralising effect on the surgeon. Neither Mr. Sheild's paper nor the interesting discussion which followed it enables us to formulate any precise rule as to the preference or otherwise to be given to the modern "complete" operation over the so-called "incomplete" operation. The use of these terms is open to criticism, because any operation is complete when the surgeon has, to the best of his belief, removed all diseased structures, and the term incomplete conveys the mistaken idea that something that ought to have been done has been left undone. The question of opening up the axilla and of clearing it out is, after all, one of expediency, and only very

enthusiastic surgeons urge its adoption as a routine practice. Everyone is agreed that a careful examination should be made of the glands and other structures in this situation at the time of operation, and no one questions the imperative necessity of removing every particle of diseased structure ; but this is a very different matter from adopting so large an operation without reference to the information gained by digital and ocular investigation. Further and more complete statistical data will be required before we can endorse the modern view as a rule of practice, and in the meantime the question remains in the position it occupied before the discussion.—*From a leading article in the Medical Press and Circular, February 2, 1898.*

AFFECTIONS OF THE EYE AND EAR.

98.—THE ASEPTIC TREATMENT OF WOUNDS IN OPHTHALMIC SURGERY.

By Dr. A. MCGILLIVRAY.

[Dr. McGillivray read his paper before the Ophthalmological Society of the United Kingdom.]

After referring to the changes in the treatment of wounds brought about by Lister, the author said that recent modifications in method consisted chiefly in reducing the strength of the antiseptic solutions used for douching purposes, and the adoption of heat sterilisation for instruments and dressings. But when the importance of the natural antiseptic property, or natural immunity, of living tissues came to be more appreciated, some surgeons discarded chemical antiseptics in operations altogether, on account of their deleterious action on the tissues of the wound, and adopted sterilised physiological saline solution, as it produced no irritation, but tended to keep the tissues as nearly as possible in their physiological condition. Antiseptic solutions, however weak, irritated or benumbed the cut tissues of a wound, and thus their natural immunity became impaired. But the antiseptic solutions employed during operations had no germicidal properties unless when kept in direct contact with the micro-organisms for several hours or even days—a very undesirable procedure even if possible—so that their action was purely mechanical, and, so far as the removal of micro-organisms was concerned, was limited to those on the surface, just as in the case of douching with normal saline solution. The position, then, of the aseptician and antiseptician was perfectly clear. The aseptician, by employing normal saline solution for douching

purposes, and studiously preventing any chemical antiseptic from coming in contact with the wound, trusted to the inherent antiseptic properties of the tissues themselves in warding off or destroying any micro-organisms that might have been left in, or that found access to, the wound subsequently. The antiseptician, on the other hand, by employing antiseptic solutions, impaired or destroyed the natural antiseptic property of the tissues, so that they were thus less able to cope with micro-organisms. A description of the operation for the removal of senile cataract was taken to illustrate aseptic technique in ophthalmic operations. From the time the patient entered hospital till he was discharged, no antiseptic was allowed to come in contact with the eye. The patient's face was carefully washed on the morning of the operation with warm water and soap, special attention being paid to the folds in the skin of the eyelids. The eyelashes were cut short, so as to allow the margins of the lids to be more easily treated and to prevent the eyelashes from coming in contact either with the instruments or with the wound during the operation. By means of a special douche the conjunctival *culs-de-sac* were flushed with sterilised salt solution (6 per cent.). The eyelids were in turn everted so as to allow their conjunctival surfaces to be carefully cleansed. This was of the utmost importance, as the conjunctival surface of the upper lid was the innermost, and therefore the most important, part of the dressing. After applying the speculum, the part of the eye corresponding to the wound was again douched, and the patient enjoined not to rotate the eye upwards till the operation was completed, so as not to allow the wound to come in contact with the margin of the eyelid for fear of contamination. Mechanical cleansing of the conjunctiva with a mop was soon discontinued, as it produced undue irritation. All instruments, lotions, mops, and dressings were sterilised by heat, so that everything that touched the eye was aseptic. Before removing the speculum the eye was douched with a gentle stream of salt solution, the solution being allowed to play over the wound to remove any cortical or capsular *débris*. Some of the solution invariably found its way into the anterior chamber, and was valuable in removing soft lens matter without causing any irritation. The dressing consisted of a piece of moist lint applied next the eye, and one or two thin layers of absorbent cotton wool, the whole being kept in position by means of a vertical and horizontal strip of adhesive rubber plaster; only the eye operated on was covered. Throughout the operation, and also during the preliminary treatment, every attempt was employed to avoid irritating the conjunctiva as much as possible, because conjunctival irritation produced hypersecretion; for the nearer the conjunctiva was to its normal condition the better for operative interference.

[In the discussion the following gentlemen took part:]—

Mr. Arnold Lawson had just completed the bacteriological examination of ninety-six apparently normal conjunctival sacs. In only two cases had he been able to find pathogenic organisms, the staphylococcus pyogenes albus; several non-pathogenic staphylococci were found, but these were all harmless. He had not found the streptococcus at all. He therefore did not consider that it was correct to say that the normal conjunctival sac was a receptacle for micro-organisms.

Mr. Mackinlay always boiled his instruments, and used saturated boric acid lotion for the eye during operations.

Dr. Bronner considered that it was not possible to make the conjunctival sac aseptic, therefore antiseptics were necessary; he always put his knives into absolute alcohol before using them. He believed that cocaine by its action on the cornea favoured suppuration.—*British Medical Journal*, March 19, 1898.

99.—HOLOCAINE VERSUS COCAINE.

By F. C. Hotz, M.D., Chicago.

Early in August I received a 1 per cent. solution of holocaine for testing its anæsthetising virtues. I first tried it on a few normal eyes and on eyes with foreign bodies in the cornea, with the following results: The instillation always caused more or less smarting and burning, which, however, lasted but about half a minute; it also produced considerable redness of the conjunctiva (palpebral and ocular), which persisted during the whole period of anæsthesia. Within one and one-half to two minutes complete anæsthesia of the cornea was noted; after six minutes the sensibility of the cornea began to return, but a second instillation prolonged the anæsthesia for another five minutes; and if then another drop was instilled the anæsthesia could again be continued. It would seem then that the anæsthetic effect of holocaine can be kept up indefinitely by repeating the instillation every five minutes. With cocaine this can not be done; at least I have noticed that, if the eye is coming out of the cocaine anæsthesia, repeated instillations do not restore the anæsthesia; on the contrary, I have often found the eye becoming more sensitive the more cocaine was used. Holocaine does not contract the conjunctival blood vessels, and therefore causes neither bleaching of the eye nor lessening of the lacrymal secretion nor drying of the corneal epithelium. It does not dilate the pupil, and has no effect on the accommodation. On account of these qualities one would naturally feel inclined to use this new anæsthetic, in preference of cocaine, in all

operations on the eye. But a series of comparative tests of the efficiency of the two remedies seemed to show that the anæsthetising effect of cocaine (2 per cent.) is more thorough and penetrating than that of holocaine (1 per cent.). I had, for instance, two patients with corneal ulcers which required the repeated application of the electro-cautery. I made one application under holocaine anæsthesia, and the next time cauterised the same eye under cocaine. Both patients, who thought cocaine was used on both occasions, said the first cauterisation was decidedly painful, while they did not feel the second one at all. I performed an advancement of the externus on the right eye under holocaine, and on the left eye of the same patient under cocaine; complete anæsthesia of the conjunctiva in both eyes; but the cutting and suturing of the tendon was decidedly painful in the holocainised eye, while scarcely felt in the cocainised eye. The most telling illustration of the difference in their penetrating effect was furnished by a case of subconjunctival injections of cyanide of mercury. Several injections had previously been made under cocaine, and the pain following the injections was moderate, and never lasted over five to ten minutes. The next injection was made under holocaine, and caused the most violent pain, which after twenty minutes showed no sign of letting up in intensity; I then instilled cocaine, and within five minutes the patient was free from pain. One week later this experiment was repeated with the same result.

All these observations seem to show that the effect of holocaine is very quick, but superficial; it is, therefore, a very useful local anæsthetic for the removal of foreign bodies from the cornea, and for operations upon the conjunctiva; but for deeper operations, and especially for those which involve the opening of the globe (iridectomy and cataract extraction), I regard cocaine as the more reliable anæsthetic.—*Journal of American Medical Association, November 13, 1897.*

100.—TREATMENT OF OPHTHALMIA BY ARGONIN.

By Dr. HORACE BIGELOW.

[Dr. Bigelow read a paper before the Society of Alumni of Bellevue Hospital, New York.]

The author reported some cases of this kind. He said that his cases had not done well under the usual methods of treatment—*e.g.*, cold applications and the use of nitrate of silver. The former was disagreeable to the patient, and required the

constant care of a nurse. The second method was painful and tedious. For some months past, in the children's ward of Bellevue Hospital, he had been using argonin, a plan of treatment that had been introduced there by Dr. E. L. Dow. Thirteen cases of purulent ophthalmia in infants had been so treated. Three of these, developing in foundlings in the wards, had been treated in this way from the earliest time of the inflammation, and had been cured in seven days. In the other cases, the average duration had been thirteen days. The first case subjected to the treatment had previously resisted the usual methods, but had quickly improved under the use of argonin. A carefully prepared three-per-cent. solution of argonin had been used. A minim dropper having been inserted deep under the eyelid, enough of the solution should be instilled to thoroughly irrigate the eyelids twice and, later, once in the twenty-four hours. Between these applications the lids were kept constantly clean with boric-acid solution. Fifteen grains of argonin contained as much silver as a grain of the silver nitrate. It was a white, amorphous powder, easily soluble in warm water. It was not irritating, and it formed no slough on contact with the mucous membrane, and, therefore, no neutralising agent was required after its use. From his experience with argonin in these cases, Dr. Bigelow had concluded that it was a very valuable agent in the treatment of purulent ophthalmia, because of its mild but thorough and rapid curative action.

In the discussion, Dr. Kalish said that it was customary to distinguish two types of ophthalmia neonatorum. There was a mild form which under ordinarily good care ended in recovery. This type until recently had been considered as not being associated with a special micro-organism. The severe form was the dangerous variety, and was furnished with a special micro-organism, the gonococcus. In his service at the City Hospital there had been times when a long series of cases would prove amenable to treatment, while at other times the reverse would be noted. In this latter class the presence of the gonococcus was demonstrated by the culture test and Gram's method. He had used argonin in too small a number of cases to form an opinion, but a colleague had used it in a dispensary service, and abandoned its use because it seemed to him that the treatment with argonin was tedious and unsatisfactory. He was aware that comparison of the results obtained from treatment in hospitals with those in dispensaries would probably be unjust, since the unremitting care by trained nurses added a most important factor to any plan of treatment. In the City Hospital it was the invariable custom to detail a nurse for constant attendance in each case, and this unceasing care was

largely responsible for the good results obtained. The chief damage to the eye arose from erosion of the cornea by the presence and contact of the acrid discharge, or from the swollen ring of ocular conjunctiva pressing upon the eyeball and shutting off the nutrient supply to the cornea. It was impossible in the majority of these cases to use nitrate of silver in the stage in which this ring or fold was found, as both the palpebral and ocular conjunctiva were dry and brawny, and early application of silver would aggravate the condition and perhaps destroy the eye. If argonin could be used in this stage, it would be a distinct advance in treatment. In gonorrhœal ophthalmia occurring in the adult, argonin had not been found so beneficial as the silver-nitrate treatment usually employed. He would like to ask Dr. Bigelow if the presence of the gonococcus had been determined in all the cases reported.

Dr. H. H. Seabrook said that he did not remember having seen for some years past a case of ophthalmia neonatorum, with or without the gonococcus, in which the eye had been lost when the treatment with silver had been properly carried out. Some physicians had come to use weak solutions of silver—even one per cent. Ten grains to the ounce was strong enough for any case. The nitrate of silver caused a rapid exfoliation of the superficial cells. Such a solution was astringent and antiseptic. Perhaps the most important element in the treatment was constant cleanliness, which could be effected by a 1-to-10,000 solution of mercury bichloride, used two or three times a day, and for the rest of the time a solution of boric acid. Even after the disease had somewhat subsided—a week or ten days—he had, in former times, seen the cornea lost, because solutions of silver would set up circumcorneal swelling; hence his practice was to use ice cloths for at least an hour after the application of silver, after their constant use had been stopped. Dr. Wilson, of Bridgeport, had stated several years ago that in gonorrhœal ophthalmia he had found great benefit from the use of vaseline introduced into the eye. Whatever might be its action, it was unquestionably most beneficial. One effect of the nitrate of silver was to excite the secretion of tears, and this in itself would wash away more or less of the secretion.

Dr. Bigelow said that the gonococci had been isolated in some, but not in all, of the cases. It was because the treatment had proved so eminently successful in those cases in which the presence of the gonococci had been demonstrated that he had thought the series worth reporting. The other cases had done fully as well under the argonin, and the diminished irritation and danger were the chief advantages of the argonin treatment.—*New York Medical Journal*, April 9, 1898.

101.—SYPHILITIC IRITIS.

By G. A. BERRY, M.B., F.R.C.S. Ed., Ophthalmic Surgeon,
Royal Infirmary, Edinburgh, &c.

[The following is from Mr. Berry's paper :]

In the treatment of syphilitic iritis it is well to begin mercury at once. Of the different ways of giving mercury, I have personally had most experience of inunctions. The mercurial ointment should be rubbed well into the skin of the axillæ or inner side of the thigh for fifteen to twenty minutes once daily, and this continued for at least a month. A daily painting of the gums with a little tincture of myrrh, and frequent brushing of the teeth (not less than four times daily) with Condy's fluid, will almost invariably keep away any complication with stomatitis. But, of course, patients have to be carefully watched during this treatment, more especially as they have frequently already undergone mercurial treatment, though usually a very inefficient form of such treatment, before the onset of the iris inflammation. What I have seen, at the hands of French surgeons, of intra-muscular injections of the biniodide in syphilitic eye affections generally, has led me to regard that method as a sufficiently efficient way of using mercury. I have, however, no personal experience of it, nor do I believe that, although more cleanly and perhaps less troublesome, it is in all respects quite as satisfactory as inunction. I should, however, certainly give it the preference over either internal administration or subcutaneous injection. Subconjunctival injection, so far as my experience goes, is also not to be recommended, at all events in iritis. One practical point of some importance, as it necessarily influences the treatment which one adopts, is the question as to the diagnosis of syphilitic iritis. In many—in fact, in most—cases of iritis from this cause there is nothing in the local appearances of the inflamed iris to point to its syphilitic origin. Owing to the frequency of rheumatic iritis, and to the possibility of the resisting power of a syphilitic individual being no doubt more or less reduced, one may often have to ask one's-self whether the mere fact of an individual who has at one time acquired syphilis, having an inflammation of the iris, is sufficient to justify the diagnosis of syphilitic iritis? There certainly seems to me to be too great a tendency in many quarters to ascribe an iritis to direct syphilitic causation wherever there is a syphilitic history, or even a reasonable suspicion of such a history. The undoubtedly syphilitic forms of iritis are met with in two varieties. In the first one or more nodular elevations make their appearance on the surface of the inflamed iris, and increase pretty rapidly in size, becoming yellow at first, and later on, owing to vascularisation, assuming

more of a rusty-coloured tint, and then slowly becoming absorbed with the disappearance of the other inflammatory symptoms, and leaving very little trace, it may be only a slightly discoloured patch, to indicate the spot which they occupied. This is the so-called gummatous iritis. It occurs within the first year after the primary infection, and is usually confined to the one eye. The whole clinical appearance and course of this affection suggests the actual transference of syphilitic matter to the iris tissue. In the other variety of syphilitic iritis there is nothing essentially peculiar in the local inflammation itself. There are, however, practically always at the same time, or there have been shortly before its appearance, other manifestations of secondary syphilis, and a history, or at all events definite indications, of a recent primary sore. This variety is mostly, indeed probably almost invariably, bilateral.

These two varieties of iritis call for mercurial treatment as that which is best calculated to remove as soon as possible so serious a complication of syphilis.

Iritis occurring under other conditions in syphilitic individuals, for instance, a year or more after the primary symptoms—and then it may be in one eye alone—should not be looked upon as so essentially syphilitic as to call for mercurial treatment. According to the patient's general condition or diathesis in other respects, salicin, iodide of potassium, or iron and quinine, are more suitable drugs to use, in addition to the necessary local treatment. It is well, too, always to remember that iritis is really an unusual complication in syphilis. The various statistics give proportions varying between 1 and 4 per cent. of all cases of syphilis. Inasmuch, too, as in many of the statistics no very critical distinction is made into secondary syphilitic iritis and iritis simply occurring in those who have been the subjects of acquired syphilis, the lower figure appears to me to more correctly express the actual proportion all round than the higher.—*Edinburgh Medical Journal*, May, 1898.

102.—GLAUCOMA.

By Professor JACQUEAGE.

In a brief clinical lecture, the author (of the Lyons Faculty) took the subject of glaucoma, and laid particular stress only on the principal symptoms of this affection so as to render its diagnosis and treatment as clear and as practicable as possible to the ordinary practitioner. Glaucoma, he said, was a primary affection, that was to say, it was a morbid phenomena occurring generally in the absence of apparent local lesions, but it might

be consecutive to diverse inflammatory ocular maladies. In any case, the fundamental fact remains that "an eye is glaucomatous when the tension is increased by reason of a rupture of the equilibrium between the excretion and the secretion." Consecutive glaucoma can be observed in young subjects, but the essential glaucoma is always met with in persons of a certain age, more frequently after 50. The patient presents himself to the doctor with one of the following types:—Acute, sub-acute, or chronic. The symptoms of each of these types are clearly defined, each one of them presenting two or three characteristic symptoms which reveal the affection.

The Acute type.—The patient is suddenly taken with intense pain in and around the eyeball. At the same time the organ becomes red and strongly infected, large vessels of the conjunctiva forming a network over the surface. The pupil is dilated, the iris and the cornea dull and insensible, while to the touch of the finger the eye seems as hard as a billiard ball. As to the sight, it has disappeared entirely, or at least is much diminished. The attack lasts from a few hours to several days, and when it disappears it leaves behind a very considerable decrease in vision power.

The Sub-acute type.—In this form the patient, before he seeks medical advice, has experienced several slight and temporary attacks which in each case impaired more or less his sight. When he finally makes up his mind to consult his doctor he will complain of seeing a kind of fog before his eyes, and that when he looks at any artificial light a kind of halo surrounds the flame; he will also tell how he suffers from pains in the eyes, attributing them to neuralgia. On examination it will be easy to detect the characteristic green colour of the pupil and the iris pushed forward against the cornea, while the tension of the globe can be easily appreciated by the finger. The ophthalmoscope will reveal a certain opacity of the vitreous humour, but generally not so great as to prevent seeing the arterial pulsations of the retina.

The Chronic form is to be met with every day. The principal, and frequently the only, phenomenon noticed by the patient is a slow and progressive decline of vision; pain is either absent or insignificant. The greenish hue of the pupil is frequently so apparent as to be mistaken for a cataract. Consequently the ophthalmoscope becomes essential to remove any doubt, for it will reveal the surest and best sign of chronic glaucoma, excavation of the papilla.

The treatment of these different forms is the same in all, as far as the object in view, the lowering of the ocular tension, although it may differ slightly in detail for each case. For the acute form, immediate and frequent instillations of a solution

of eserine (1-100). This treatment alone often arrests the attack and wards off danger. However, in most cases, it will be necessary to perform iridectomy, unless the glaucoma be that of the hemorrhagic form, where it would not only be useless but dangerous. The same treatment is appropriate to the sub-acute type, but with a little less haste as regards iridectomy, although the sooner the better. The instillations of the eserine might be replaced by pilocarpine, as less irritant. As to the chronic form, the long-continued employment of pilocarpine is about all that can be done; iridectomy, sclerotomy, puncture of the vitreous body, are all good operations, but give but little benefit to the patient.—*Medical Press and Circular*, March 23, 1898.

103.—REPORT ON THE OPHTHALMOLOGICAL
SECTIONS OF THE
MOSCOW INTERNATIONAL MEDICAL CONGRESS.

By HERMAN KNAPP, M.D., New York.

[From Dr. Knapp's paper:]

The first subject for discussion, the bacteriology of the cornea and conjunctiva, was admirably introduced by Professor Uhthoff, of Breslau. Only two forms of keratitis can thus far be ascribed to the action of a specific micro-organism, viz., the typical serpent ulcer, by the Fränkel-Weichselbaum capsule diplococcus, and the keratomycosis aspergillina, in which aspergillus fumigatus is invariably found. The other forms of keratitis (scrofulous, phlyctænular, eczematous), hypopyon keratitis, ulcers from trachoma, gonorrhœa, and diphtheria, do not depend on specific microbes of the primary diseases, but on secondary infection. The micro-organisms of conjunctivitis are better known. Uhthoff mentioned and described:—(1) Gonococcus Neisser, but the purulent conjunctivitis of the new-born is only in part the result of it; (2) the Fränkel-Weichselbaum diplococcus; (3) the Koch-Weeks bacillus; (4) the streptococcus pyogenes of Parinaud and Morax, which produces milder forms of contagious conjunctivitis; and (5) the diplobacillus of Morax and Axenfeld. The etiology of true trachoma is bacteriologically still unknown.

The second question, the nature and treatment of trachoma, was introduced by J. Hirschberg, of Berlin, who presented statistics of the occurrence of trachoma in different countries. The epidemic extension of the disease was recognisable and a real menace to most countries. Kuhnt, the present writer, and others discussed the nature of the two forms of the disease, the follicular and the trachomatous. The mechanical treatment,

chiefly by expression, was dwelt upon, yet it was in itself not considered sufficient to effect a permanent cure in the majority of cases, but as requiring to be supplemented by nitrate of silver, sulphate of copper, and the like. The ever-important subject of cataract was discussed at length by different speakers. It appeared that simple extraction had gained ground. Pflüger, of Bern, said that prolapse of the iris could be prevented by excising a very small piece of the periphery of the iris. He was told that Chandler and Myles Standish, of Boston, had for several years operated in the same manner with the same result, as could be seen in the annual reports of the Massachusetts Charitable Eye and Ear Infirmary.

Fukala introduced the treatment of excessive myopia by the removal of the lens. His views are known; his discourse was controversial. The advantage of this kind of treatment was recognised, but its danger—loss of the eye from hemorrhage and detachment of the retina—pointed out as an argument to limit the indications to those cases in which the expected gain in sight greatly outweighed the risk.

Kuhnt presented a very valuable synopsis of the empyemas of the accessory sinuses of the orbit, especially the frontal. He advocated radical operation, if possible, with restoration of the previousness of the fronto-nasal canal. He said that by sparing the periosteum disfigurement could be avoided. The present writer dwelt on the differential diagnosis of the affections of the accessory sinuses—mucocele, empyema, sarcoma, osteoma, and their extension from one sinus to another, of which the involvement of the sphenoidal was the most important concerning sight and life. He detailed the methods of treatment.

Professor S. S. Golovine, in an admirable paper, spoke of his experience with Czerny's osteoplastic operation on the frontal sinus. He had operated successfully in this way on five patients. He demonstrated the method on the skull of a dead body.—*New York Medical Journal, January, 1898.*

104.—TREATMENT OF SUPPURATION OF THE MIDDLE EAR, ESPECIALLY IN CHILDREN.

By WILLIAM CHEATHAM, M.D.,

Professor of Ophthalmology, Otology, and Laryngology in the Louisville Medical College, &c.

[From Dr. Cheatham's paper:]

I know nothing easier than the management of cases of inflammation of the middle ear, especially when we get them

in the acute catarrhal stage which is known as earache. A great many of these cases occur during acute infectious diseases, and in the great majority of instances the trouble originates primarily in the nose and throat. With proper management of the nose and throat trouble, simple cleansing with antiseptic solutions by means of sprays or the post-nasal syringe, many of the middle ear affections might be prevented. A syringe or any kind of an atomiser used anteriorly seldom reaches more than two-thirds of the mucous lining of the nose because of the anatomical relations, and consequently cleansing cannot be thoroughly accomplished in this manner. The best means of cleansing the post-nasal space is by means of the post-nasal syringe, but its use is extremely difficult in children. One thing to be guarded against in using the atomiser or the post-nasal syringe is the too hurried blowing of the nose to remove secretions, &c. After introducing medicines by means of sprays or syringes, a few drops will remain in the pockets of the mucous membrane, and if the nose is blown too quickly you are liable to blow it up into the middle ear and cause infection there. I have seen such a case recently. It is better, if you use sprays, to have the patient snuff down from the post-nasal space after a thorough cleansing than to use a handkerchief and blow the nose immediately after an application.

My treatment in the majority of cases of earache, in which there is no secretion—simply an inflammation or hypersensitive condition of the middle ear—is hot water and the application of leeches. I usually apply four leeches—one to the tragus, one or two inside the canal, and one externally. The next best thing when there is no secretion is opium. If there is any secretion in the middle ear, either an increase in the natural secretion of the part, or the condition has gone to the formation of pus, it does not usually get well until an opening is made, and opium is not indicated until a free opening has been established. In suppurative troubles about the throat and middle ear opium is not safe, as it masks the symptoms. I am in the habit, therefore, of depending upon hot water and leeches, and if there is no secretion in the middle ear I use opium; but if secretion is present I never use opium until the secretion is evacuated. If there is secretion, the first indication is to let it out, and especially is this true if the attic is involved, because the connective tissue in this situation may be the means of extending the suppuration, and we are more liable to have brain complications. An incision should be made if there is any secretion which causes bulging of the drumhead. Then, after the incision is made, and you get good drainage, the next indication is to wash out the ear thoroughly with antiseptic solutions.

The first indication is to get free drainage; do not make a small incision, but a large one, and especially ought the attic to be opened early in the course of the trouble if it is involved in the suppurative process. I had a case not long ago in which the attic was so involved that the roof of the canal dropped down, and I could not make out the drumhead at all. An internal incision was promptly made, but, notwithstanding this, the pus showed externally, and I had to make an incision behind the ear and establish drainage at that point.

In simple catarrhal inflammation, without suppuration or much hypersecretion, probably the best method of treatment is to use hot water with a fountain syringe. The method of using the syringe is important. There are very few tubes of the fountain syringe that are properly made for use in the middle ear. The tubes are too large. To overcome this difficulty I have been in the habit of taking a medicine dropper with a good, free opening, and attach the glass part to the fountain syringe in place of the rubber nozzle, and to the end of the medicine dropper I attach a small piece of rubber tubing. This syringe should be held only a few feet higher than the patient's ear, so as not to give too much force to the current, but sufficiently high to give a free flow of water. If you have the syringe too high you will get too much pressure, and will have nausea and other disagreeable symptoms. The water should be as hot as can be borne by the patient. I use carbolised water, 15 to 20 drops of carbolic acid to a pint of distilled water. This combination relieves the pain, it is a mild local anæsthetic, and is very satisfactory in the management of these cases.

If the symptoms are not controlled by the application of hot water, leeching, or opium, and the case goes on to that stage in which there is bulging of the drum membrane, then the proper treatment is an incision. But few general practitioners are able to tell when there is fluid in the middle ear, and they go on treating the case until the drumhead has ruptured. On the other hand, the drumhead may not rupture, suppuration may extend the other way; you may have a remarkably thick drumhead, and the secretion will extend the other way. Should the drumhead rupture under pressure, you are liable to have the whole drumhead swept away by the sudden escape of fluid. It is much better to make an incision instead of allowing rupture to take place spontaneously. The old method was to poultice until relieved. Meantime you have pressure, increased pain, and probably extension of the trouble; the indication here is to get free drainage early in the disease. After you have evacuated the fluid, keep the ear aseptic by proper applications so that the fluid will not become muco-purulent or purulent in character.

I want to speak of this subject particularly, as the specialist seldom sees these cases until they have been treated for some time by the general practitioner; in many of them the drumhead has ruptured before they are referred to the specialist. I have had an unusual number of cases of acute suppuration of the middle ear lately, and some of them had gone on to mastoid involvement before they reached my hands.

I would urge the family physician to either study these cases more closely, and be able to treat them better than they do now, or refer such cases to some one who knows how to do so.—*Pediatrics*, March 15, 1898.

105.—THE SYMPTOMATOLOGY AND TREATMENT OF PYÆMIC SINUS THROMBOSIS.

By Dr. FREDERICK WHITING, Aural Surgeon to the New York Eye and Ear Infirmary.

In the first number of the *Archives of Otolology* for 1898, the author says that the local symptoms are few, obscure, and indeterminate. The most constant is, of course, pain, usually radiating from the ear over the corresponding side of the head, varying in intensity from dull aching to violent cephalalgia of unendurable severity. Associated with this pain there is often œdema of the mastoid region, extending backward and upward over the site of exit of the mastoid vein and downward to that portion of the scalp drained by the occipital vein. When this manifestation of circulatory embarrassment is present, there is usually distinct tenderness, and in some instances there is exquisite sensitiveness over the same area. Another manifestation that has been occasionally remarked as an evidence of obstructed circulation, most recently by Stirling (*Canada Medical Record*, November, 1896), is moderate œdema or puffiness of the eyelids of the corresponding side as a result of interference with the cavernous sinus and engorgement of the ophthalmic vein. The tenderness in the upper portion of the posterior cervical triangle, upon the importance of which Griesinger insists, is as often absent as present, but when it exists it is a valuable aid in estimating the probable position and extent of the obstructing thrombus. The deeper down toward the bulb the clot extends and the more marked the disintegration, the greater the constancy of Griesinger's symptom, which depends upon inflammation of the deep veins of the neck, the anterior and posterior condylar participating with considerable frequency in the inflammatory extension from the sinus. Intraocular inflammatory changes are observed in a considerable number of cases,

and usually take the form of neuro-retinitis, although in a few instances where there has been extension of a non-infective clot into the cavernous sinus certain muscular paralyses have manifested themselves as the result of pressure; the pallid and anxious countenance, the perspiratory suffusion of the face and brow, are in no wise distinctive of this special lesion, but are equally common attributes of allied intracranial infective diseases when the toxæmia is pronounced. The general or systemic symptoms of sinus thrombosis are essentially those of septic-pyæmia, and the manifestations are the results of the dissemination of the pathogenic micro-organisms through the blood-vessels and lymph channels. ² POKLÉ-

The diagnosis in a typical case where the chronic suppuration of the ear is recognised, associated with repeated and severe chills, sudden and excessive rises of temperature, with rapid remissions, the establishment of metastases, either central or peripheral, and obstruction of the jugular, sufficiently pronounced to be recognisable to the touch, does not offer great difficulties. But it is highly essential to the successful prosecution of treatment that the condition be recognised if possible before the establishment of those symptoms constituting unquestioned pyæmia—that is to say in the earlier septic stages. Here the presence of Griesinger's symptom, œdema of the region of the occipital vein with marked tenderness on pressure in the upper portion of the posterior cervical triangle, will be a guide; and if the Gerhardt symptom of diminished flow through the external jugular of the affected side, not thoroughly accepted, can be determined, with rigors and sudden rises and remissions of temperature, with occasional vomiting and perhaps œdema of the eyelids of the affected side, with paresis of one or more nerves located in the region of the cavernous sinus, the diagnosis, if not assured, is at least sufficiently probable to justify one in taking the step which, no matter how pronounced the symptoms may be, must ultimately be resorted to for absolute proof of the presence of sinus thrombosis, viz., operative investigation. The question of how and when to operate, it would seem reasonable to suppose, might with increasing experience be determined beyond peradventure.

The views of two celebrated writers upon the subject are quoted by Dr. Whiting. Körner says: "As soon as you have made the diagnosis of sinus thrombosis, the moment to operate has arrived," and conveys the impression that further delay is a calamity. Hessler, on the contrary, says (*Die otogene Pyämie*): "When puncturing the sinus with an aspirating needle shows that a simple clot is present, operation is not indicated, but repeated daily punctures should be made and the contents of the aspirating needle carefully examined microscopically for

pus and micro-organisms. The failure to find these is to be accepted as proof that the clot is benign and will undergo constructive organisation, while the discovery of bacteria in the contents of the aspirator is indication for operation"; and he deprecates undue haste in opening the sinus. The attitude of Hessler is practically unique, and, so far as Dr. Whiting is aware, unsupported; it is open to what appears a valid objection, that in the event of the thrombus being non-infective the frequent puncture tests made with an aspirator would speedily compass the result he endeavours to guard against—that is, infection. And, again, there might exist several small foci of suppuration in the clot which his punctures did not discover, but from which septic absorption might readily originate and dissemination begin. Körner voices the sentiment of the great majority of operators, for there is practical uniformity in the advocacy of immediate operation upon the sinus as soon as we are certain of its being the site of obstructive phlebitis. This appears to be rational treatment, for with the thorough removal of the clot the danger of any further infection is removed, while the presence of the thrombus is a continual menace to life not to be tolerated, notwithstanding in a few instances it has remained innocuous and become organised. The tendency of infective thrombosis is always toward disintegration and the establishment of metastatic embolic processes. If in a few cases a more favourable termination has supervened, the result may be cause for congratulation, but does not justify us in expecting a repetition of it or in failing to meet the clearest indications for operative interference. The solution of the question of whether to tie the jugular or not is rendered perplexing by the fact that illustrious names may be found enrolled on each side, but the advocates of ligation are a formidable majority, and recent otological literature is steadily recruiting their ranks.—*From full abstract in the New York Medical Journal, April 16, 1898.*

106.—SUPPURATIVE DISEASE OF THE FRONTAL SINUS.

By W. MILLIGAN, M.D.,

Hon. Surgeon to the Manchester Ear Hospital, &c.

[The following is taken from Dr. Milligan's paper. Until more recently the subject has hardly received the attention which it deserves.]

The treatment of frontal sinus suppuration may be divided into the non-operative and the operative, the intra-nasal and the

extra-nasal methods. The non-operative treatment consists in simply keeping the nasal cavity as free from all purulent secretion as possible by frequent irrigation with warm antiseptic lotions or in washing out the sinus by means of a specially constructed cannula. The cannula is passed up between the middle turbinated body and the septum as nearly along the infundibular passage as possible and as can be judged by the sense of touch until it is supposed to have entered the sinus. By means of a syringe, irrigation is now performed. This method is, however, not only very difficult and uncertain, but is a method not altogether free from danger. It is also open to the objection that it is a form of treatment which the patient is unable to make use of, and although it may be regarded by some surgeons as a diagnostic adjunct for establishing the presence or absence of pus in the sinus, it cannot be seriously looked upon as a useful therapeutic agent. Chiari, however, it may be stated, has recorded the cure of two cases of chronic suppurative catarrh of the sinus with frontal pains by means of this plan. In all cases where oedematous or polypoid mucous membrane is present in the vicinity of the infundibular opening an escharotic or the electro-cautery should be applied to pin down this redundant tissue, and thus to facilitate intra-nasal drainage. Anti-streptococcic serum has also been employed in the treatment of sinus suppuration, and Boucheron says that when such suppuration is due to pure streptococcic infection, rapid improvement has followed its injection. Stoker claims for oxygen gas a place in the therapeusis of this affection, but in the case recorded by him I think it is open to question whether the pus really did proceed from the frontal sinus.

Operative Treatment.—Removal of the anterior end of the middle turbinated body has been recommended by many observers with the idea that more room is thereby afforded not only for the egress of all purulent secretion from the sinus, but also for the application of remedial agents and for the better carrying out of intra-nasal irrigation. My experience of this method of procedure is such as to lead me to believe that it is of itself rarely, if ever, sufficient, and that its only virtue consists in the fact that it at any rate wards off the tendency to obstruction of the duct with consequent distension of the sinus. Schäffer's method of opening the frontal sinus from the interior of the nose by means of curette or trocar pushed upwards through the floor has very properly, I think, been given up on account of the great risks attending its employment. What we should, I think, aim at in the treatment of nasal sinusitis is not to grope about in the dark with probe or cannula, but to rest our methods of treatment upon true surgical principles, freely opening so far as is possible the diseased cavity so that

none of its recesses escape inspection and radical treatment. Where it has been decided that free drainage of the sinus must be secured, I venture to think that an external operation will be demanded, the main objects of which operation are:—(1) To secure a sufficient opening for the inspection and local treatment of the mucosa—in such cases often granular or polypoid, and (2) for the establishment of thoroughly efficient fronto-nasal drainage. Before, however, actually considering the various methods of external operation as at present performed, let us pause for a moment and ask ourselves, “What are the indications for operating?” These indications may be summarised briefly, as follows:—(1) Retention of pus within the sinus unrelieved by simple and intra-nasal methods of treatment—*e.g.*, leeching, irrigation, &c.; (2) the persistence of a purulent discharge from the region of the sinus after the exclusion of the participation of the other accessory sinuses in the production of this discharge; (3) the presence of symptoms of cerebral irritation or of cerebral compression; and (4) the presence of severe neuralgic pains with accompanying impairment of general health. The position of the surgeon in these cases is very much the same as is his position when dealing with suppurative disease of the mastoid cells and antrum. In acute cases, and in cases where retention of matter has taken place from one cause or another, the indications for or against operation are sufficiently clear. In chronic cases where there is no retention of matter but a constant flow of germ-teeming pus, we have a much more difficult problem to solve. If we, however, consider the important anatomical relation of the sinus we will, I think, regard with much suspicion any suppurative inflammation going on in a part in close relation to the brain, thereby rendering possible the occurrence of thrombosis of its sinuses, infection of its coverings, and metastatic abscess in its substance, quite apart from the general risks of pyosepticæmia or impairment of general health, &c.

The sinus may be opened from the outside by one of two incisions—(1) An incision along the supra-orbital ridge, or (2) a median incision over the glabella in the mid-line of the forehead. The first incision is the one more usually adopted in cases where the prominent symptoms are eye symptoms, cases usually seen by the ophthalmic surgeon, and the second in cases where the main symptoms are nasal, cases usually seen by the rhinologist. It is not my intention to speak of opening the sinus by means of a supra-orbital incision, as I have no practical experience of its utility or otherwise. In all cases in which I have thought an operation necessary, now numbering fifteen—one subacute and fourteen latent—I have used the median incision so strongly recommended by Mayo Collier and others.

The conclusions which I have arrived at from a study of these cases and from certain other cases of frontal sinus disease which I have seen in my own experience and in the practice of various friends may be briefly summarised as follows—(1) In cases of acute frontal sinusitis, rest in bed, warmth, local depletion, and intra-nasal treatment should first of all be undertaken. (2) In cases of acute frontal sinusitis with obstructed duct, and which do not react to local treatment within forty-eight hours, external operation should at once be resorted to. (3) In cases of chronic suppurative frontal sinusitis (latent empyema) it is advisable to first of all give intra-nasal treatment a fair trial—*e.g.*, washing out the sinus when possible, destruction of all redundant and polypoid mucosa so as to facilitate intra-nasal drainage, and the performance of an anterior turbinectomy. (4) In cases of latent empyema, where local treatment fails, and where attacks of subacute sinusitis recur at intervals an external operation should be performed. (5) In cases of latent empyema, where any symptoms of ocular or orbital disease supervene, opening and thorough draining of the sinus should be effected without delay so as to avoid the risks of septic inflammation of the orbital contents and loss of vision. (6) In cases of latent empyema, where symptoms of cerebral irritation or of cerebral compression are present, the sinus should be freely opened from the outside, erosions of the bony parietes carefully looked for, and, if necessary, an opening made into the cranium so as to explore the region of the anterior cerebral fossa.—*The Lancet*, February 19, 1898.

AFFECTIONS OF THE SKIN, &c.

107.—THE ACTION OF ROENTGEN AND ELECTRICAL RAYS UPON THE SKIN.

Compared with the enormous number of skiagraphs which have been made, the quantity of accidents has certainly been relatively small, but the number of recorded cases is now sufficiently great to allow of an analysis being made of the circumstances under which they occurred, with a view to the avoidance of such accidents in future. This has been done most carefully by Messrs. Oudin, Barthélemy, and Darier, of Paris, who communicated their results to the International Congress at Moscow in August last. Up to that time the number of cases known amounted to 44, and a detailed study of each individually allowed to tabulate their results as follows:—

Characters of the Radiographic Eruptions.—I. Changes of the skin, epidermis, and cutis:—(1) Acute results, redness, pain, swelling, vesicles, phlyctenulæ, desquamation, formation of blebs, and even burns, with final cicatrisation. (2) Chronic results, dermatitis, thickening, loss of elasticity and sensibility, desquamation, &c. (3) Falling of hair from the head and beard, and of the nails. The changes of the skin—dermatitis and dermatitis—after the action of X-rays show the following peculiarities:—(1) They are slight or serious, superficial or deep, according to the position and the constitution of the patient. They may be compared in many respects with the burns of electrical origin. (2) The inflammation caused by the Roentgen rays do not appear immediately after the exposure, but require for their development an interval of generally several weeks from the last sitting. They have appeared once on the next day, but usually only after several sittings, and not often before an interval of about a week. In one case they appeared only after forty long sittings. (3) In their mode of appearance the inflammations are characterised: (*a*) by irritation; on the erythema there sometimes follows an irritation of the skin; (*b*) by decolorising of the skin, or by the formation of dark brownish blotches (increased pigment formation); (*c*) by exfoliation of the epidermis (simple scaling); (*d*) by elementary eruptions, such as the formation of vesicles after a previous hyperæmia, of phlyctenulæ, with or without pus or exudation; (*e*) by swelling of the skin tissues; (*f*) by sloughing; this is associated with pain or not, but it always takes long before the slough separates; (*g*) by ulceration. (4) The changes in the skin are painful. There is sensitiveness, tension, burning, pain, neuralgia, &c. In three cases the sense of touch was diminished, in one case a hyperæsthesia was developed. (5) Healing takes a long time, the paling away of the patches, the drying of the epidermis, the scaling and throwing off of sloughs all takes place very slowly. Repeated burns of this kind give the skin a dark tint, and it then becomes wrinkled and scaly. The dermatitides after X-rays may be also divided into acute and chronic forms, the former occurring more frequently in those who have been the subjects of the exposure, the latter in the operators. In two cases (the operators being Oudin himself and Radiguet) the changes came about gradually in the hands, and only after months of constant work with the radiograph. The skin was smooth, shining, of a red to violet tinge, and looked like the discoloration after frost-bite. It was hard, thickened, and felt like parchment; and there were distinct cracks and fissures, with whitish ulcerated bases, very like those caused by the action of frost. The hairs all fell and the nails were thoroughly altered, having become flat, thin, brittle, and ready

to fall away in pieces. The hands were not painful, but felt tight, and one of them could recognise a peculiar feeling of heat every time the strength of the rays was increased, a feeling quite different from the stabbing and pricking caused by the electric current. The injuries happen more easily, and are of a more serious character, if the parts of the body which are exposed to the rays are not properly healed, or are already diseased in some other way, as in the case of lupus or dermatitides of other kinds in which the rays were being used as a form of treatment. But, just as is the case with sunlight, the skin of different persons possesses very different degrees of sensitiveness towards the new rays.

II. The injurious effects may be limited to the epidermis and appendages, such as falling of the hair and loss of nails, and these results can take place without any obvious preliminary inflammation.

III. It has been denied that the X-rays when applied to the skin have any injurious action on the internal organs, but the authors have noticed vomiting occurring at or after the sittings in the cases of two children, and unbearable palpitation with very irregular pulse in two adults. In one of these the repeated action of the rays caused the appearance of dark specks on his left breast. Being engaged in the sale of the apparatus, he neglected the warning to obtain from further exposures, and developed acute pulmonary tuberculosis. So far from having had any beneficial action on the disease in this case, the rays had evidently provoked it into activity.

Judging from the accidents at present recorded, they seem to have been caused by—Too strong an electric current; the tube being placed too near the skin; the duration of the exposure; too quick a repetition of the sittings; individual differences of sensibility; the presence of some disease of the skin. Nothing has been absolutely determined as to the actual mode of causation, but the discussion of the theories has led to certain practical rules being established which will diminish the chance of their happening. To attribute the liability to these accidents of a certain small number of those operated upon to an idiosyncrasy does not help much; but it is certain that the condition of the skin which prevails at the time, its relative dryness or moistness, and the presence of scars, is of importance to the question. It is doubtful whether the duration and frequency of the exposure is really the most important factor, for experience shows that often quite a few sittings, even a single sitting, and one which has not lasted long, may effect the changes. It seemed to the authors that the distance of the tubes from the skin was of far greater importance. They think that the degree of injury varies inversely with the cube of the

distance, and not with the square, as is the case with light and heat. There is undoubtedly some resemblance between the injuries caused by the X-rays and those induced by the action of sunlight (*e.g.*, erythema, pigmentation), and both act through blue glass and are impeded by the intervention of red glass.—*Medical Chronicle*, January, 1898.

108.—ERYTHEMA MULTIFORME.

By LOUIS A. DUHRING, M.D., Philadelphia.

[The following is taken from Professor Duhring's paper :]

By the term erythema multiforme I understand a disease characterised by certain tolerably well-defined erythematous lesions upon the skin, which undergo a variable evolution, with a tendency to run an acute course and to recover spontaneously. The lesions are chiefly erythematous in type, and are superficial, their seat being in the corium, especially in the papillary layer. They are not hyperæmic, but are distinctly exudative in character. They consist of macules, maculo-papules, papules, papulo-vesicles, vesicles, and blebs. They manifest a disposition for one form to pass into another, thus frequently, but not always, constituting a multiform eruption. It must not be supposed that every exudative erythema is necessarily an erythema multiforme. They may be distinctly marked in their general features, constituting easily recognisable dermatoses, or only faintly pronounced, so that possibly the diagnosis can be made only by observing the case for a few days and noting the evolution of the process. The lesions, whether in the form of macules, papules, vesicles, or blebs, are inclined to be sharply circumscribed, and, especially in the case of macules, to be marginate. The colour is a bright, vivid, or deep red, often a raspberry red. The maculo-papules, papules, and papulo-vesicles are three forms frequently occurring together or in sequence, are peculiar in that they almost invariably undergo in the course of their evolution central superficial necrosis. As they grow and extend in size they break down in the centre, forming a slight or marked depression and a crust, the latter often being insignificant. This is one of the characteristic features of the maculo-papular, papular, and vesico-papular varieties of the disease. Where the process inclines to manifest itself on the skin as a broad erythematous lesion, occupying a small area, or, it may be, the greater part of the general surface, margination in the form of arcs and segments of circles is common. I may here refer to features which every clinician has observed, that the nervous system influences the cutaneous

manifestations of the disease in a remarkable manner. The general symptoms, however, are more variable in form than the manifestations upon the skin, and for this reason probably are overlooked, or are not taken into account in viewing the entire process. In mild cases, of which a goodly number have come under my observation, they may be trivial. The milder symptoms naturally vary somewhat with the age of the patient, but in adolescents or young adults consist of malaise, lassitude, aching in the limbs and trunk or joints, loss of appetite, furred tongue, constipation, fever in a variable degree, often slight, parched lips, and the like. The amount of the cutaneous disturbance, however, by no means always indicates the gravity of an entire disease. If we note the general symptoms in a sharp attack there may exist distinct rheumatoid symptoms, including articular stiffness, swelling, or pain, localised or fugitive, together with all the symptoms enumerated as liable to be present in the milder forms of the disease. These and other, sometimes graver, symptoms may make their advent suddenly or gradually before or with the appearance of the eruption. I believe that what we call erythema multiforme is in reality a general disease, in many instances, of an infectious nature. Of the precise nature of the infection we know little or nothing.

There is another group of cases, much smaller than those mentioned, that are well known, and which generally pursue a chronic course. The symptoms are more general and graver in character than in erythema multiforme, the lesions being hemorrhagic. The general symptoms are similar or like those I have briefly outlined as occurring in some cases of severe erythema multiforme, but they are more pronounced, and, in addition, hemorrhages occur, slight or severe, which may relapse or recur in the intestinal tract or elsewhere. The cutaneous lesions are hemorrhagic and not erythematous; that is to say, that take on a hemorrhagic character either in the beginning or soon after, the erythematous character being for the most part or wholly wanting. These cases belong to the hemorrhages of the skin rather than to the erythemata. They possess much in common with infectious purpura, and, I think, should be regarded as examples of that disease. If we group these purpuric cases with the erythemata it will become necessary to change the definition of erythema, which we are by no means prepared to do. I grant that the causes which may give rise to some cases of erythema multiforme may, in like manner, be concerned in the production of some forms of purpura, and I am of opinion that such is sometimes the case. But this fact does not make them one and the same disease.—*Journal of the American Medical Association, April 16, 1898.*

109.—ECZEMA PALMARE AND PLANTARE.

By W. ALLAN JAMIESON, M.D., F.R.C.P. Edin., Physician for Diseases of the Skin, Edinburgh Royal Infirmary.

[From Dr. Jamieson's paper.]

There is a remarkably obstinate form of chronic eczema, which attacks the palms, and, though more rarely, the soles sometimes also. This is occasionally only part of a more widespread development of the disease, but is perhaps oftener seen alone. When such cases come for advice, there are hard scaly patches of infiltrated skin, involving more or less of the surface. There is ragged and uneven scaling, yet not very pronounced, while in the natural lines of flexion, or independent of these, are deep and painful cracks. The hands feel hot, and burn and hitch at times, though this latter feature is scarcely so aggressive as in eczema of other regions. From functional reasons, the integument of the palm is less movable than elsewhere, and the infiltration renders it absolutely fixed. Hence, should the case be a severe one, the hand is habitually held in a half-closed position, any attempt at extension giving rise to much suffering by tearing open the existing fissures or producing new ones. In this way the member is all but useless for work. The morbid condition even in its extremest grade is pretty nearly confined to the palm, advancing sometimes along the fingers towards their tips, the pulp remaining, as a rule, immune. The secretion of sweat is almost wholly suspended, provided the hands are uncovered, but temporary relief can be obtained by artificially correcting this, by soaking in water, or freely rubbing in oily lubricants. No curative effect is thereby procured as when the hand is allowed to dry, or the oily application is intermitted, there is rather an aggravation. The feet may be similarly affected, but on the soles it seldom reaches such proportions. Though met with in both sexes, this variety of eczema is most commonly encountered in women, and is then about the menopause. The diagnosis of such cases is not always easy. Though frequently—erroneously—designated psoriasis palmaris, the difficulty does not lie between this dry scaly form of eczema and true psoriasis, for though psoriasis does sometimes attack the palms, and there gives rise to an analogous condition, yet this is so rare as an affection, independent of psoriasis elsewhere, as to be practically out of court. The same may be said in even stronger terms of lichen planus. There does not appear to be a single recorded instance of lichen planus in which the eruption was limited to the palms. The influence of syphilis, however, must be rigidly excluded. When the palms are attacked in the secondary and symmetrical period, there can scarcely be much perplexity, since there are sure to

be some local or constitutional evidences discoverable. In the tertiary period, again, syphilis rarely invades both palms; it starts from separate foci, is apt to assume a crescentic arrangement, and to heal in the centre while it progresses circumferentially. In the intermediate epoch, however, between the second and the fifth year from infection, we may meet with a keratosis of the palms manifesting itself symmetrically. Sometimes, too, there is a compound of eczema and syphilis extremely puzzling, and refractory in the last degree. This extends as a diffuse redness over the entire palm, often advancing on to the flexor aspect of the wrist, and terminating there with a defined and crescentic margin. There is comparatively no itching, and if there are fissures, these are superficial and few. The colour also is different from that of eczema; it is more a dull coppery tint, due to the heightened blood hue shining, as Unna has shown, through the syphilitic plasmoma with increased translucency, from the absence of collagenous substance. Nor can we obtain much satisfaction from the therapeutic test, as this is apt to be unsatisfactory, especially in the instances where a blending of the two diseases occurs.

Another form of keratosis of the palms which must be excluded is that consequent on the administration of arsenic. The treatment of this form of palmar eczema has hitherto been unsatisfactory and disappointing. No doubt one could give great relief, and sometimes cure, by the use of agents, such as salicylic plasters or salicylic collodion, which occasioned separation of the thickened masses, and the subsequent application of salves containing lead, such as the ung. diachyli or ung. vaselini plumbicum, to promote a more healthy growth. But the procedure was a slow one, and the disease strongly tended to relapse. The peculiar softening effect of emol keleet, when applied as a thick watery magma, covered with an impervious material to prevent drying, led me at first to hope that by its means a cure might be obtained. But though the immediate results were admirable, the condition soon recurred on discontinuance of the emol keleet. We were still seeking for some substance which would so modify the epithelium, when the accretions had been got rid of, and the surface had become smooth, as to restore normal cornification, when Unna visited Edinburgh about eighteen months since, and introduced to notice his oxidised pyrogallol, as a remedy for lupus erythematosus and psoriasis. Pyrogallol, or pyrogallic acid, had proved itself most useful as an elective destructive agent in lupus vulgaris, and valuable in the dispersion of limited patches of psoriasis, particularly of the scalp, but it was too toxic to employ over large areas, and even on small was liable to evoke a troublesome dermatitis, which in the case of lupus erythema-

tosis led to the appearance of fresh foci of disease. The method of procedure adopted has been the following:—The hands (and feet) are enveloped in poultices made of starch jelly, with which some boric acid has been incorporated, not merely sprinkled on, applied cold between two folds of cotton cloth. Each time the poultices are changed—once in four or six hours—the palms are briskly rubbed with a rough, though soft dry cloth, and thus the soddened, unhealthy epidermis made gradually to peel off. Not too much is attempted at a time, but in course of four or five days to a week the palms will have become smooth, soft, pliable, and of a pinkish hue; cool, extensible, and free from itchiness. The poultices are now laid aside, and an ointment thus compounded rubbed in well but sparingly each day. \mathcal{R} Acidi pyrogallici oxydati, grs. 5—30; lanolini, semi-unciam; ol. amygdalæ; aq. destillatæ, ana drachmas duas: M. To this has in some cases been added 10 grs. of salicylic acid. The ointment blackens the parts to which it is applied, but chiefly such as had been the seat of the parakeratosis. This returns for a time to a slight extent, but can be kept under by washing with a resorcin and salicylic soap, made with a superfatted basis, more or less friction being employed according to circumstances. The effect of the oxidised pyrogallic acid ointment in restoring normal keratinisation is quite remarkable, and, so far as my experience yet goes, it is permanent. Further time must elapse ere one can speak quite definitely as to this, but nothing hitherto tried has at all approached it in rapidity and efficiency.

Since the onset of eczema palmare is generally insidious, and that of eczema plantare frequently unnoticed at first, measures of prevention are difficult. The risk of recurrence after cure is best obviated by maintaining the healthy state of the skin of those regions. In some cases oatmeal should be substituted for soap, for detergent purposes. If the latter is employed, only the best varieties of the superfatted toilet soaps are admissible in the case of the hands. The epidermis of the soles is to be kept in order by daily friction with a loofah and cold water.—*Edinburgh Medical Journal*, 1898.

110.—A NOTE ON UNCOMPLICATED PURPURA IN CHILDREN; ITS AFFINITIES.

By H. W. SYERS, M.A., M.D. Cantab., Physician to Out-Patients,
Great Northern Central Hospital.

The number of cases of uncomplicated purpura seen in out-patient practice is very large. Cases, children almost exclusively, are continually presenting themselves in which

the cutaneous affection is the only ostensible morbid feature. For several years I have given particular attention to this class of malady amongst my out-patients and especially endeavoured to ascertain whether, as is generally supposed and taught, there is really any connection whatever (not merely casual) between this affection and rheumatism. In investigating these cases I have given the widest possible signification to the term "rheumatism," being quite content to admit as rheumatic those cases in children in which one or two joints only have been swollen and tender, and to give weight also to the presence at a previous period of growing pains. Considering how often in a young child the joint manifestations of acute rheumatism are of the very slightest, it would clearly have been unfair to exclude such apparently trifling evidence. I have entirely failed hitherto to trace any relation between the two maladies—the skin manifestation and rheumatism; and in hardly any cases have I found valvular disease of the heart—in so few that its presence was clearly accidental and had no reference to the purpuric condition being due to the rheumatism, which doubtless caused the endocarditis, either as cause, effect, or concomitant. Pain, if present, which has seldom been the case, has been almost entirely confined to the fleshy part of the limbs affected, nearly always the lower extremities. I cannot recall a single case out of the great number I have seen in which the pain was prominent in or confined to a joint, still less a case in which a joint has been swollen or tender. But all my cases without exception have presented evidence of unhealthy surroundings and also, and still more markedly, of deficient or of unwholesome food. In many cases the hygienic conditions have been the very worst, ill-ventilated, stuffy rooms at the very least, and in some cases damp, badly drained dwellings with defective light. In all cases there has been improper and deficient food, and generally in the case of young children a grievous deficiency in the allowance of milk. I have found that if these faulty conditions of hygiene were rectified and the necessary changes made in the quantity and quality of the food that the complaint disappeared with the greatest rapidity. In fact, the treatment that is found to be curative in scorbutus is invariably the treatment which is immediately successful in cases such as those I describe. I am disposed to regard these cases in which, quite suddenly and without apparent cause, large numbers of purpuric spots appear, especially on the lower limbs, as scorbutic in nature. Probably the occurrence of such spots is the very earliest evidence of the morbid condition of the blood which has arisen from the causes above referred to. In a few cases I have observed that there was slight softness and tendency to bleed on the part of the gums, but generally nothing of the kind was to

be made out. Hæmaturia in babies is not infrequently the sole evidence of scorbutus which has been induced through improper feeding, and it does not seem impossible that the same morbid condition may manifest itself in older children—for in my experience the class of case to which these remarks apply includes children almost exclusively—by hemorrhage into the skin. Be this as it may, I have invariably found that the only efficient mode of treatment in these cases consists in regulating the diet and in improving the surroundings. Fresh air, sunlight, good ventilation, together with fresh milk, orange juice, and potato gruel have been the agents most active in restoring the patient to health. Drugs may be entirely placed on one side; they are of no use, and the administration of iron, ergot, or tannin simply upsets the already disordered digestion and increases the mischief by rendering still more difficult gastric digestion. If anything of the kind is given I think quinine is the least unsuitable.

Of course it is understood in these remarks that I refer only to the cases of purpura, nearly always occurring in children, which are slight and usually unaccompanied by other physical signs and symptoms. I say nothing with regard to the disease accompanying other morbid conditions, such as morbus cordis, enteric fever, ulcerative endocarditis, &c. That is a totally different matter. But the point on which I would dwell is that, in my experience, these cases are much more allied to scorbutus than to rheumatism, with which they appear to me to have nothing in common. I regard them as mild forms of scorbutus. I have been led to this view by the experience gained during some years of a class of case met with in large numbers, I suppose, in the out-patient rooms of all large city hospitals.—*The Lancet, February 12, 1898.*

111.—SOME CASES OF FEIGNED ERUPTIONS.

By FRANCIS J. SHEPHERD, M.D., C.M.,

Surgeon to the Montreal General Hospital; Lecturer on Diseases of the Skin, McGill University.

[The following is from Dr. Shepherd's paper:]—

The simulation of various diseases has been resorted to in every age and by all classes of society. When the purpose is to avoid conscription, work, or duty, the simulator is usually a male; when to excite sympathy and interest, or to obtain notoriety, a female. In some cases the malingering or simulation is apparently motiveless. The fact that skin diseases are often feigned is well recognised, and in some cases the deception

is so clever that the fraud may for a long time go undiscovered, especially if the patient falls into the hands of medical men who have no sense of humour, for such are easily imposed upon. The common forms of eruption which are simulated are the erythematous, bullous, and vesicular, for these are easily produced by irritants, such as Spanish fly, mustard, acids, &c., and repeated applications of such unguents, as pointed out by the late Dr. Hilton Fagge, give rise to appearances which differ from those we are accustomed to see as the result of the use of the same substance as a local remedial agent. Heat and friction with the fingers are often made use of to produce lesions of the skin. According to the late Mr. Startin, tartar-emetic ointment has been used successfully to simulate lupus. Local gangrene, which has been called erythema gangrenosum, spontaneous circumscribed gangrene, &c., according to the late Dr. Tilbury Fox, is always the result of artificial production. He says repeated applications of nitric acid or Spanish fly will cause gangrene, or, first, the application of Spanish fly and on top of this nitric acid. It is well known to surgeons that the heat produced by a rubber bottle filled with hot water will produce gangrene of the skin in patients whilst unconscious from ether.

One of the cases reported below is an example of the spontaneous gangrene, and, taking all things into consideration, although no absolute proof was forthcoming, the case is doubtless one of feigned eruption. It goes without saying that it is most important to have a knowledge of real disease in order to detect a simulated one. The fact that most of these feigned eruptions differ from any known skin disease, both as to their situation, symmetry, and common appearance, together with the looks, history, and general conduct of the patient, must lead any intelligent and observing practitioner to suspect the fraud. That there is no known cause for the deception, or that no benefit can accrue to the simulator, goes for nothing. To excite interest and draw attention to herself is a sufficient inducement to a hysterical woman. I am inclined to believe that, on account of the large audience, cases are seen more frequently in the public clinics than in private practice. In the two cases of large bullous eruptions of the cheeks, I omitted to test the acidity of the fluid, and so lost the opportunity of deciding whether or no the lesions were produced by an acid. Mr. Startin (*British Medical Journal*, January 8, 1870) relates a case where he detected a fraud by getting an acid reaction of the bullous contents with litmus paper :—

Case 1.—Gangrenous Patches of Skin on the Arms.—Amelia B., aged 30, was suffering from a peculiar eruption of the skin on the back of both hands and forearms, which consisted of a number of circular patches about the size of a 10-cent piece. Some of the patches were quite dry,

hard, and gangrenous, and of an almost black colour; others were shiny, and of a dead yellowish colour, and quite insensitive; and some, again, were merely red and inflamed. Around the edges of each patch was an inflammatory areola, and a slight line of demarcation was already beginning to form. The lesion was evidently produced by the bottom or cover of some metal box, or other similar article, heated to a high temperature. The object of the trick I could never discover, unless it was to get off her work. Apparently she was not in any way hysterical. *Case 2.*—Elizabeth B., aged 44, had on each cheek several huge blisters, extending from the lower border of the orbit to the inferior maxilla; there was also a patch of large vesicles on her forehead. Around the blisters the skin was red and inflamed. The edges of the eruption were quite sharply defined. From the situation of the eruption, its sharp definition, and the general appearance, I came to the conclusion that it was artificially produced by cantharides, carbolic, acetic, or other acid, the object being to avoid work in the field. *Case 3.*—Laura R., aged 28, was a nervous woman, who had most of the hysterical stigmata. On examination a typical croton-oil rash was seen covering her chest, breasts, and between them. Later she came back with each cheek covered with a huge blister, half full of fluid; on right side the blister was quite baggy. *Case 4.*—Eliza C., aged 24, waitress, was admitted for gangrenous patches on the left foot and leg. Over the foot and ankle were several white scars, due to former ulcers. On dorsum and inner side of the left foot, reaching as far as the great toe, were four well-defined necrotic patches of skin of various sizes, from half an inch to five inches in length. The largest patch, five inches long and two broad, was on the dorsum of the foot; the smallest a little below, and the two remaining ones on the inner side. There were a few very small patches in various parts of dorsum and outer side of foot. The foot was swollen, but the inflammatory reaction was very slight. All the patches were quite black, and around each was beginning a line of demarcation. There were no hysterical stigmata present. I found out that the girl was an inveterate cigarette smoker, and was addicted to liquor. The lesions might have been produced by the burning end of the cigarette. How the eschars were produced was a puzzle, but I have seen exactly similar ones produced by burns and scalds and the application of too hot rubber water-bottles to patients coming out of ether.

—*Journal of Cutaneous and Genito-Urinary Diseases, December, 1897.*

112.—THE CUTANEOUS TUBERCULOSIS IN CHILDHOOD.

By Dr. JOHNSTON.

[The author thus details the treatment of cutaneous tuberculosis, including lupus:]

Specific treatment in the shape of tuberculin may be dismissed, it may be said, with little fear of contradiction, as a complete failure at present. I have never seen the remotest good result from its use. Prophylaxis should not be neglected. Those who have a tendency to the development of tuberculosis should be hedged about by every hygienic precaution; the skin should not

be exposed to contact with the virus, and should be antiseptically cleansed when so exposed ; it should be protected when possible by destruction of underlying disease. There is no need to dilate upon the necessity for general hygienic and therapeutic measures. These are the same and equally important in the skin as in other organs. Chief reliance must, after all, be placed on local treatment. It may be summed up in one word—removal. The means to that end are limited only by the bounds of human ingenuity. The ideal method, advocated by Lang, of Vienna, is excision and grafting ; but, unfortunately, this is limited to small areas, and the disease is apt to return even then. Curetting with a Volkmann spoon or curette offers certain advantages, notably the aid to the operator, in the feeling of resistance given by healthy tissue. It is most useful in large areas, and should then be done under general anæsthesia. Linear scarification may be done with local anæsthetics by means of a single blade or a scarificator consisting of several parallel cutting edges. While not curative in itself, this method offers advantages as an adjunct to other treatment. The scarifications are done in parallel lines and crossed at right angles. It is useful in locations, lips, or ears, difficult of access to other means. A further advantage is that it produces a soft, supple cicatrix ; objections to it are the long duration of treatment and possibility, in common with other surgical methods, of general infection through lymph channels. It is particularly applicable in lupus sclerosus. Cauterisation may be done with the Paquelin or electro-cautery, or by chemicals. The first is useful in large areas ; the second, in picking out single nodules deep in the cutis or recurring in a cicatrix. Chemical cauterisation is a method not in great vogue in this country. Arsenical pastes, Vienna or Marsden's, destroy the diseased parts, but should not be used over areas greater than one and a half inches square. They are excessively painful. Silver nitrate in solution or solid may leave a permanent stain in the skin. It is impossible to limit the action of zinc chloride ; salicylic acid is useful only to remove thickened epidermis ; carbolic acid has no value. Pyrogallic acid (paste, 10 per cent.) acts only upon foci of disease. Electrolysis may be used to destroy isolated lesions. Success in treatment is largely a question of the skill shown in selection and carrying out of the method. No single mode can be followed successfully, and often resort must be taken to all in one case before success is assured. For example, a large ulcerated plaque of lupus on the cheek or tuberculosis verrucosa on the hand may be curetted thoroughly and the actual cautery applied to the pockets of disease. The wound may be dressed antiseptically or covered with a layer of pyrogallic ointment (there is danger of

intoxication from the latter if too large a surface be attacked). The acid destroys disease which has escaped the scraping and cauterisation. When a clean surface is secured it is allowed to granulate, plasters (mercury) or the solid stick restraining exuberant granulation. After the scar has formed it may be scarified to make it soft, and recurrences may be destroyed by electro-cautery or electrolysis. Fortunately, we have now at hand a means of reducing the hideous, puckered cicatrices of cutaneous tuberculosis in thiosinamin. A 10 per cent. solution in glycerine and water is injected hypodermatically every second or third day in 10-minim doses.—*International Journal of Medical Science*, November, 1897.

113.—SYPHILITIC PARONYCHIA AND ONYCHIA.

By JAMES C. JOHNSTON, M.D.,

Dermatologist to the New York Lying-in Hospital.

Syphilis Vegetans.—This condition is generally believed to be a result of mixed infection. My case occurred in a German woman, 59 years of age, living with unhygienic surroundings, and her person being undescribably filthy. No history was obtainable, but she showed unmistakable syphilitic ulcers of the upper third of both legs. On the dorsum of the right foot, extending from the joint flexure to the end of the metatarsal bones, was a patch composed of smaller lesions partially fused at their bases. The original efflorescence had been an ulcer which, spreading peripherally, had taken on vegetative overgrowth, directly analogous to the process which converts pemphigus vulgaris into pemphigus vegetans. The patch had been in existence some months, so that time had been ample for the cauliflower appearance of the vegetations to be obscured by a thin covering of newly formed epidermis. The excrescences, though fused at their bases, as mentioned, were separate and distinct above, each being rounded to a slight eminence. The colour, after thorough cleansing with green soap, was pink; there was no crusting and no ulceration. The borders of the patch gradually faded into the surrounding skin. Antisyphilitic medication in these cases usually has no more effect than upon the "parasyphilides," affections which are not luetic in themselves, but flourish upon the syphilitic soil, of which the pigmentary syphilide and paresis (in most cases) will serve as examples. Surgical measures must, as a rule, be taken for the removal of the vegetations, such as curetting, excision, or the use of the cautery. Pressure applied by elastic bandages or plaster dressings has been used, but in this instance a good

result was obtained by covering the patch with mercury plaster and by pushing the administration of iodide of potassium until the patient was taking 60 grains three times daily. The plaster should be removed and it and the surface cleansed twice daily. A new piece is necessary only every second or third day.

Syphilitic Paronychia and Onychia.—Syphilitic paronychia occurs in three forms:—(1) Dry, (2) inflammatory, and (3) ulcerative. The clinical phenomena in the first two classes usually appear early in the course of the disease. The ulcerative case to be described began close to the end of the second year. The man, a butcher by trade, had received little or no treatment since the disappearance of his early eruption. Following a slight injury, there appeared at the border of the nail on the right middle finger a hard, indolent papule, which soon ulcerated and spread along the groove and beneath the nail, raising it from its bed. When first seen, the crateriform ulceration was a quarter of an inch in diameter. The discharge from the sore was thin and ill-smelling. The ulcer was shallow and uneven, covered by unhealthy, apparently gangrenous granulations. The nail, loosened to the extent of one-half its width, had lost its lustre, was deeply ridged longitudinally, and of a yellowish colour. Nosophen was dusted over the surface, and when, in combination with potassium iodide administered internally, it had set up reparative action, it was replaced by mercury plaster. The latter restrains exuberant granulation in addition to its stimulative action. Recovery followed, complete, except for a slight deformity of the nail on the affected side. This paronychia must be carefully distinguished from the simple, non-syphilitic and the diabetic varieties. Differentiation is often difficult. The therapeutic test is worthless. A curious fact, worthy of note in connection with these paronychial gummata is that they are prone to occur at the site of an extragenital chancre of the finger, as is too often seen in medical men. The gumma differs very little from the primary lesion.

Syphilitic onychia also has three recognised forms:—(1) The *onyxis craquelé* of Fournier, in which the nail is cracked and broken; (2) the form in which it is partially or entirely shed; (3) hypertrophic onychia. My cases belong to the second variety, and the one described will serve as a type. The patient, a young woman, first visited the Presbyterian Hospital during June last with a chancre of the lip, the result of kissing a syphilitic subject. It was followed by a rather severe form of the disease, the mouth lesions being particularly annoying. She was progressing fairly well with treatment by means of inunction, when, during October, my attention was accidentally drawn to the nails. Those of the thumb, middle, and little finger of the left hand, two of the right hand, and the nail of one

great toe were affected. Involvement of the fingers is rather more common than the toes in these cases; of the latter, the great toe is most often attacked. The nails were marked with longitudinal furrows, were lustreless, yellowish, with a multiplicity of *flores unguium*. The lunulæ had disappeared, and in every one separation had taken place at the posterior border. The line of adhesion to the bed could be seen by pressing down the free end. After complete separation from the matrix the old nails continued to move forward leaving the bed bare between them and the new appendages, which were soon formed. The new nails are ridged at first, but soon attain their proper shape. The process is slow but entirely painless. Inflammation is not present. The prognosis is good under treatment. Local measures are unnecessary if constitutional treatment is actively pursued. Between the time of the fading of the eruption and disappearance of the chancre the patient was taking quarter-grain pills of mercury protoiodide four times daily. On observing the onychia they were discontinued and nightly inunctions of a dram of mercurial ointment were employed instead. The patient is progressing favourably.—*Medical News, March 5, 1898.*

114.—TINEA TONSURANS AND TINEA CIRCINATA.

By JOHN EDWIN HAYS, M.D., Louisville, Kentucky,
Professor of Anatomy and Dermatology in the Hospital College
of Medicine, &c.

[The details of an illustrative case and other parts of Dr. Hays' paper are omitted here.]

It is much easier to destroy the parasite of tinea circinata than of tinea tonsurans, for the reason that the parasite can be more easily reached by the remedy in the former. On the scalp the parasite digs down deeply into the tissues, occupying a place around the hair bulb. It is difficult to apply a remedy which will penetrate the tissues to sufficient depth to reach the parasite. This disease is one which we are not likely to confound with any other skin or scalp trouble, consequently we will not dwell upon the differential diagnosis. And I will say as to treatment that there are a number of remedies which are capable of curing this disease if you are able to apply them in such a vehicle that the remedy will penetrate deeply enough into the tissues to reach the parasite. Some remedies have a greater penetrative action than others, and while you may use sulphur, mercury, resorcin, ichthyol, and quite a number of other parasiticides, you will find that some will yield better

results than others. I have frequently used for the last year or two a combination of carbolic acid, iodine and oil of turpentine with glycerine. The formula is:—℞ Acid carbolic, 1 drachm; tincture iodine, 2 drachms; ol. terebenth, 2 drachms; glycerine, 3 drachms. M. Sig.—Apply twice daily with camel's hair-brush to affected spots. I find this application is about as effective as any I have ever employed, and it has the advantage of being comparatively painless; if any pain is experienced it is of a slight nature compared to the application of the plain tincture of iodine or any of the stronger applications. We have in this combination three things capable of destroying the parasite, viz.: iodine, carbolic acid, and oil of turpentine. This particular combination has a superior penetrative effect, going deeper into the tissues than any other liquid preparation with which I am familiar. Another admirable application in the treatment of tinea is a 5 per cent. solution of the oleate of mercury in oleic acid. This is an efficacious application in the management of ringworm. Oleate of copper is also an admirable remedy. We find that copper is a strong parasiticide, and especially is it antagonistic to these vegetable parasites.

This disease seldom develops after the age of 15 years; the moisture perhaps does not exist between the hair bulb and its sheath after that time. These cases are rather tedious to cure. You will find it will take a period of several weeks, or even months, to bring about a complete cure. For that reason you should persevere with the remedy with which you begin. I think there is little to be gained by making frequent changes in the use of your remedies in the management of this disease, but when you select one which seems to meet the indications, then go ahead with its use and do not abandon it until you have given it a complete and thorough trial. It is well when this disease makes its appearance in a family where there are other children, to isolate the child until the disease has been controlled, because it almost invariably spreads if it breaks out in a family in which there are several children, or in which the children of different families are in the habit of playing together, &c. Tinea is quite an interesting disease to study. We have three distinct varieties, viz.: tinea tonsurans, tinea barbæ and tinea circinata; the first involving the scalp, the second involving other hairy portions of the face, the third involving other regions of the body not covered by hair. Then we also have another form of tinea occurring on the body, the tinea versicolor, due also to a parasite, but different from that constituting the cause in the other three varieties.—*Pediatrics*, January 18, 1898.

Obstetrics and Gynæcology.

115.—SEVEN CASES OF PREGNANCY COMPLICATED BY CHOREA.

By W. R. DAKIN, M.D., F.R.C.P.,
Obstetric Physician and Lecturer on Midwifery,
St. George's Hospital.

[Much of Dr. Dakin's interesting paper has had to be omitted here.]

The interest of chorea in connection with pregnancy lies not only in its comparative rarity, as to which there may be some difference of opinion, but also in the modification of type the disorder undergoes when it affects a pregnant woman. During the last six years I have had under my care seven such cases. Under the conditions with which we are now dealing the disease is not seldom fatal—that is, it is a much more fatal complaint in the cases of pregnant women than it is in children. Whether this is due altogether to the existence of pregnancy, or whether the danger is common to all adults whether pregnant or not, the present cases are not sufficiently numerous to determine. It is certainly much more common in adult women who are pregnant than in those who are not. There is another character which renders this disease, when it attacks a pregnant woman, of great importance, and that is the frequency with which mania complicates the matter. It will be seen that of those cases which were severe the woman became maniacal in every instance but one.

Case 1.—Chorea at four and a half months; induction commenced; death with hyperpyrexia. *Case 2.*—Chorea at four and a half months; induction completed; death with hyperpyrexia. *Case 3.*—Chorea at sixth week; induction; recovery after long attack. *Case 4.*—Chorea beginning at sixth month; induction at seventh; recovery. *Case 5.*—Chorea at sixth month; induction; recovery rapid. *Case 6.*—Chorea in fifth pregnancy at second month; left hospital on own account. *Case 7.*—Chorea in second month; mild; recovery without induction.

The general impression conveyed by these cases goes to confirm what is usually believed as to the greater frequency of chorea in first pregnancies than in later ones, and also as to the influence a former attack of chorea (in childhood, as a rule) or of acute

rheumatism has in producing a liability to these spasms in the first pregnancy succeeding such an illness. In Cases 4 and 6 there is no such history. They are all, except Case 5, instances in women under twenty-five. Five of them were in married women, who had not, therefore, the depressing influence of illegitimate pregnancy as an exciting cause. In one of the two single women a fright is said to have precipitated the attack. The moment of appearance of the spasms in each case was some time during the first six months; in the worst cases it began in the third, fifth, and second months respectively. All the patients had mitral bruits but one, and in this one it was found at the post-mortem that the mitral valve was affected. None of the cases made any attempt at spontaneous abortion. In only four of the seven cases were the spasms very severe, and this observation goes to show that chorea occurring during pregnancy may, contrary to the general belief, in a fair proportion of instances be a mild disease. Fagge gives the number of cases of chorea that proved fatal in Guy's Hospital between the years 1848 and 1875 as twenty. Only fifteen of these died of chorea, the others of accidental complications. Of these fifteen, eleven were over 14 years of age (nine between 15 and 18, one of 40, and one of 50 years), and he says:—"Few of these were pregnant." It is, therefore, without straining the meaning of "few," fair to conclude that the fact of the patients having exceeded the age of 14 had more influence in producing the fatal result in these eleven cases than the presence of a growing ovum in the uterus. All the pregnant cases but one (Case 6, the mildest one of all) were maniacal at one time or another. In Cases 1 and 3 the mania did not appear till after delivery. The patients who were maniacal before induction (Cases 2, 4, and 5) became sane very soon after delivery, relapse taking place for a few hours in two of them (4 and 5).

The choreic movements were not so easily affected by emptying the uterus; in only one did they subside at all rapidly. This was the case in which the spasms were so severe that induction was practised for the chorea alone, without, as was done in Case 5, waiting for the appearance of mania. The movements were in some degree diminished in all by induction of labour. The induction of labour or abortion gives the woman in a severe enough case the best chance of safety. Drugs have little or no influence while the woman is still pregnant, unless the attack is a very mild one indeed, as Case 7 was. This was proved in all the cases, for attempts had been made to relieve the spasms with bromides, arsenic, and morphia before they came under my care. Chloroform was useful as long as the patient was anæsthetised, but only in a few cases did its effect in quieting the woman last much beyond the recovery of consciousness. The influence of

hyoscin after the delivery over the chorea and mania in Case 3 was very gratifying. Its superiority over morphia in that instance was well marked.

The temperature in all the fatal cases rose to 106° F. and over just before death. The rise was sudden, taking place only about four hours before the patient died—in two of the cases to 105° and in one to 103°. In the other fatal case (8) the rise to 106° must have been very rapid; for four hours before death it was 99·8°, where it had been for the three previous days. Wet-packing was used in one case (9) and had no effect. It is a pity that the cold bath was not employed in any one; it might possibly have saved some lives. The prognosis in any given case would seem to depend on the severity attained within a week or so of the first appearance of the spasms, since cases which are mild for a week after the beginning appear to be likely to be amenable to treatment. To this rule there may be serious exceptions, and the look-out for dangerous symptoms must not be relaxed. Mania must never be overlooked, however slight it may be in its beginning, and the induction of labour or abortion must be undertaken at once when the patient's mind begins to wander, however mild the actual spasms may be at the time. Case 5 is perhaps a good example of the value of this course. Induction must also be undertaken if the spasms are severe enough to keep the woman awake at night. The manipulations necessary for this purpose must be performed under an anæsthetic. The suddenness of the rise of temperature in some cases must be remembered and the universally fatal result of this; and it should be made a rule to take the temperature every hour at least in any case at all severe, so as to avoid missing the opportunity of attempting to save the woman's life by the cold bath. Perhaps it would be safe to proceed to measures for reducing the body heat immediately this rises to over 100°, for none of the cases which got well rose so high as this at any time. The value of hyoscin in mania complicating chorea is worth remembering.—*The Practitioner*, December, 1897.

116.—ACCIDENTAL HEMORRHAGE.

By ROBERT JARDINE, M.D., Physician to the Glasgow Maternity Hospital.

[The following is from Dr. Jardine's paper. The details of four severe cases are omitted.]

The subject of accidental hemorrhage is of greater importance than that of placenta prævia. With the exception of rupture of the uterus I know of no more fatal complication in labour

than concealed accidental hemorrhage. The onset is insidious, and assistance may not be obtained until it is too late. The want of an external manifestation of what is going on may even deceive the medical attendant.

Etiology.—In the cases I have examined carefully, I have always found the placenta more or less degenerated. There has probably been endometritis present. A perfectly normal placenta might become detached as the result of a severe accident, but this is exceptional. The exciting cause may be a blow, over-exertion, over-stretching such as to reach something above the head or in hanging-up clothes; shock, fright, severe vomiting, severe coughing, &c., have been given as causes. In some there may be no apparent cause. In the external variety the blood gradually makes its way down between the membranes and the uterine wall, until it appears at the external os. In the concealed variety the blood is stored in the uterus, which it distends enormously. This great distension of the uterus causes the woman very great pain of a continuous rending variety. A multipara usually complains of it being very different from any pain she ever felt in former labours. This is a symptom of the utmost importance. The other signs and symptoms are those of hemorrhage and collapse.

Diagnosis.—The external variety may be mistaken for placenta prævia. If the os is not dilated you may have a difficulty in deciding, but usually the os will admit of the placenta being felt in the latter. A boggy feeling in the fornices will also indicate placenta prævia. The concealed variety can usually be easily diagnosed by the collapsed condition of the patient, the great distension of the uterus, and the nature of the pain she complains of. Rupture of the uterus gives somewhat the same collapsed condition, but it occurs as a rule in the second stage of labour, and an examination of the patient would soon settle the diagnosis.

Treatment.—In the preface to Jellett's *Short Practice of Midwifery*, Smyly says:—"In the first two years of my mastership I treated all serious cases of accidental hemorrhage by rupturing the membranes; and, if that did not prove effectual, delivery was effected by version and extraction or perforation. The results were so bad that I resorted to plugging in all cases of external accidental hemorrhage in which the membranes were intact and labour pains absent or feeble—that is, in the great majority of cases—and with excellent results. The fear that an external would be converted into an internal hemorrhage proved groundless." My experience has been different from that. The second case shows that this fear is not groundless. It began as an external form, and the plugging converted it into a concealed one. Jellett strongly advocates the plug. He

says:—"If the blood cannot escape, then it must cease flowing as soon as the cavity is full. There is no room for any considerable quantity of blood to escape into a healthy uterus occupied by an unruptured ovum. If a vessel rupture in such a case, and no blood escape through the os, the pressure in the uterus would rapidly become greater than the blood pressure, and the hemorrhage would cease. If, on the other hand, the uterus be unhealthy, and dilate before the blood pressure, then the amount of the hemorrhage is only limited by the dilatibility of the uterus." This is all true enough, but the unfortunate thing is that we rarely have to deal with a healthy uterus. If it were healthy the placenta would not separate except under very exceptional circumstances. The placentæ in the cases which I have examined have all been in an unhealthy condition. Jellett says the hemorrhage is primarily due to an endometritis. A uterus with endometritis is not a healthy one. Nature's method of checking hemorrhage is not by pressure, but by contraction and retraction of the uterine vascular fibres. The only way to get that is by emptying the uterus, a practice I have always carried out when any active hemorrhage was going on. The only case I have lost was a very exceptional one. I am afraid I was too anxious to get a live child in that case, and it was complicated by a considerable contraction of the pelvis. Rupturing the membranes may suffice when active contractions are going on, but I would never trust to it if there had been much hemorrhage. If hemorrhage is going on, I think the best treatment is to dilate and deliver, with due precautions not to lacerate. If the hemorrhage has ceased and the patient is not collapsed, we may wait and watch her. If she is very much collapsed, we should stimulate her first before delivery, as the shock of the delivery may prove fatal even without any post-partum bleeding. The treatment of the external form is comparatively simple, but in the concealed we have a much more serious difficulty to face. Jellett says:—"The only treatment which is of any avail in these cases is *accouchement forcé*, or Porro's operation." The former I have tried, and I must confess the results have not been encouraging. Rupturing the membranes has been recommended by some, but the escape of the liquor amnii would only make more room for hemorrhage, as the uterus would not be able to contract. Porro's operation has been done with success, and I shall give it a trial if I am unfortunate enough to meet with another case in the hospital, where one can be prepared to do it on a minute's notice. Before doing a Porro or attempting to deliver by *accouchement forcé*, I shall first transfuse a pint or two of saline fluid, and repeat this if necessary afterwards.—*Glasgow Medical Journal*, January, 1898.

117.—PLACENTA PRÆVIA.

By ROBERT JARDINE, M.D., Physician to the Glasgow
Maternity Hospital.

[The following paper and that on Accidental Hemorrhage are taken from Dr. Jardine's valuable article on Ante-partum Hemorrhage. The details of the eight cases of placenta prævia, or unavoidable hemorrhage, are omitted.]

Treatment.—In the *American Text-book of Obstetrics* the following statement is made:—"There is no single method of treatment in placenta prævia applicable in all cases and at all times; therefore the obstetrician will act most wisely who chooses means corresponding with the special features of the case in hand and with the emergencies that arise." I entirely agree with that statement. In the cases just related various methods were employed. Of late the vaginal tampon has been very highly spoken of, but to adopt it in every case would be a fatal mistake. If properly applied it will check the hemorrhage and ensure dilatation, but if the vagina is not thoroughly plugged it is worse than useless. It is most useful before dilatation of the os, or in cases where removal of the patient is necessary. The strictest antiseptic precautions must be taken. It should not be left in for many hours, and the patient should be carefully watched. On removing it the os will usually be sufficiently dilated to turn by the bipolar method and bring a foot down. The case can then be left to nature if the os is not dilated sufficiently to allow delivery without risk of laceration of the cervix. Bipolar version is one of the best methods of treatment. It can be done when the os will admit two fingers, and is therefore applicable to many cases. When the thigh is drawn down into the cervix, the very best plug and dilator is secured. Bleeding will cease, and the cervix become quickly dilated. Gentle traction will assist this and check any hemorrhage, but one must not yield to the temptation to deliver quickly. Laceration of the cervix is a dangerous accident in an ordinary case, but much more so in a placenta prævia on account of the vascular condition of the parts. Podalic version was the method most generally adopted in the cases tabulated. If the os is sufficiently dilated to allow the hand to be passed in, this can be quickly done. If the cervix is soft you can generally dilate it sufficiently to pass your hand, or Barnes' bags or Champetier de Ribes' single bag can be used. The latter I have not used in placenta prævia, but it should be most useful provided it did not burst. I have had three of them burst, and have experienced a most unfortunate accident with one of them.

In the central or complete variety, if you cannot strip the placenta off so as to pass your hand round it, it is better to push your hand through it. In either variety if the os is sufficiently dilated delivery should be accomplished at once, either by turning or forceps. Forceps, perhaps, gives a better chance to the child. In one case all I did was to rupture the membranes and wait. In the lateral or marginal varieties this may suffice, provided the presenting part of the child will act as an effectual plug and dilator, and you watch your case closely. This method has lately been advocated as applicable to all cases, but I should be very chary of trusting to it except in such cases as I have indicated. It is claimed that strong contractions will come on when the liquor amnii drains away, but unfortunately this is not always the case, and, if you have to turn, the operation is rendered much more difficult and the bipolar method practically impossible. In the central or complete variety it has been suggested to push your finger through the placenta and strip the amnion off the inside of the placenta without rupturing it, and allow it to protrude through the opening to act as a dilator and plug. This seems to me a very precarious method. The amnion is said to be easily stripped off, but it is far too weak a membrane to act as an efficient plug and dilator. Stripping the placenta off as high as one can reach is sometimes very useful in checking the hemorrhage, and it allows dilatation to take place more rapidly, but it diminishes the chances of the child. As soon as the child is born one must be prepared to deal with any post-partum bleeding which may occur. The uterus should be firmly kneaded, and if there is any bleeding the placenta should be removed at once and a hot intra-uterine douche (120°) given. Water which has been boiled does perfectly well. In all cases we used 1 in 300 creolin solution. In all cases of intra-uterine douching after operations we use at least 2 gallons of this. Ergotin should be given hypodermically, and if there is great prostration stimulants should be freely administered, and hot bottles placed about the patient. If the hot douche fails to stop the hemorrhage, one may plug the uterus and vagina. If there is no extensive laceration this may prove effectual, but if the tear extends beyond the cervix into the body of the uterus I am afraid nothing will save the woman except removal of the uterus, either by total extirpation—vaginal or abdominal—or amputation through the cervix. Stitching the cervix is useless if the tear extends into the body. When the loss of blood has been very great it is necessary to get fluid of some kind quickly into the circulation to keep the heart going. Several methods can be adopted. The best fluid to use is salt and water, 1 dr. to the pint. A pint of this can be injected into the rectum, and it is usually quickly absorbed. If

one has a trocar and canula the injection can be made into the areolar tissues of either axillæ or under either breast. The best method of all, however, is to transfuse the fluid directly into a vein. Boiled water should be used (100°), and the operation done with antiseptic precautions. In hospitals this operation can be done in a few minutes, but in private work it would not be so easy. The apparatus required is very simple, viz., a canula, piece of tubing, and a filler. You must be careful not to introduce any air. The quantity to be used must vary with the amount of blood which has been lost. In our first case a pint sufficed. The effect on the pulse was perceptible before many ounces had been introduced, and by the time the whole pint was in the pulse was full and strong. In the fatal cases 8 pints were used.

The table of 51 cases of placenta prævia include all those which have been treated in the hospital since 1881, together with the ones I have had at the West-End Branch and in private. [The table is omitted here.] I have classified them under two headings, complete and lateral. Under the heading of lateral are included those which are usually termed marginal as well as lateral ones. The records were not always explicit enough to enable one to decide the exact position of the placenta when it did not completely cover the os. By some authorities this classification is adopted, and it really suffices. Twelve were complete and 39 lateral. Of the former, 2 mothers died and 10 were saved, while of the children, 5 were born alive (one case being twins) and 8 dead. Of the lateral, 3 mothers died and 36 were saved, while of the children, 15 were alive and 24 dead. The total number of mothers lost was 5, or slightly under 10 per cent.; of children 32, about 61 per cent. It must be borne in mind that in at least two cases the children were macerated, while in several they were too premature to live. The presentations were as follows:—Cranial, 43; transverse, 3; breech, 2; hand, 1; leg and arm, 1; elbow, 1. The treatment adopted was—Podalic version, 36; bipolar version, 3; forceps, 4; traction on breech, 2; and 6 were born by natural efforts. The tampon was used nine times, but in many of these cases it was used more as a safeguard to prevent hemorrhage while removing the patient to hospital than as a dilator. Barnes' bags were used nine times. Manual dilation was the principal method, combined with separation of the placenta when necessary. In a few cases rupture of the membrane was all that was required. Post-partum hemorrhage occurred in six, one being secondary on twelfth, thirteenth, and fourteenth days. The vast majority of the patients were multiparæ, but six of them were primiparæ. The youngest of them was 19, while the remaining five were what might be called elderly primiparæ,

aged 28, 28, 30, 34, and 35 years. The youngest multipara was 19 (ii-para), and the oldest 45 (xiv-para). One had had placenta prævia once before, and another twice. The latter had also cardiac disease.—*Glasgow Medical Journal*, January, 1898.

118.—ECTOPIC GESTATION.

By A. W. MAYO ROBSON, F.R.C.S., Senior Surgeon to the
Leeds General Infirmary.

[The following is taken from Mr. Robson's paper, based on twenty-three cases:]

Diagnosis.—In all the acute cases that I have seen there has been no difficulty in making a diagnosis, the symptoms having been pathognomonic. These were a sudden pelvic pain followed by faintness of varying degrees, even to extreme collapse; the history of one, or perhaps two, missed periods, and usually the appearance of a slight metrorrhagia, with, at times, the passing of decidual membrane. On pelvic examination the uterus was usually found tilted over to the normal side, and a soft doughy swelling could be felt at the site of the disease. The special symptoms to which I would draw attention are:—(1) Superficial dulness on percussion over the pubes and in either flank, which on deeper percussion gives a resonant note. (2) A thrill in the same regions on gently flicking with the finger nail, though no ordinary signs of fluctuation can be felt. (3) A symptom which, I believe, has not been hitherto described. On turning the patient over, the dulness in the flank then uppermost persists for some little time, but gradually disappears in a way which I have never found in the case of any other fluid than blood in the peritoneal cavity. (4) In one case related to me by my colleague, Mr. Jessop, the liver dulness had entirely disappeared, apparently owing (*a*) to the liver having become diminished in size from the loss of blood, and (*b*) to the bowels having been pushed up by the effusion of blood in the pelvis. In nearly all the cases there was dysmenorrhœa for some time before the catastrophe, and in several the pain of the pregnant tube led the patients to seek advice before rupture occurred. In three cases I made the diagnosis of tubal pregnancy before rupture; in one, Case 13 the rupture occurred into the broad ligament, and after a long tedious illness the patient recovered without operation. In another, Case 19, I removed the unruptured tube containing the ovum; and in a third, Case 6, I made the diagnosis and arranged to operate, and the rupture actually occurred on the way to the

operating theatre, where I removed the tube still bleeding. In the class of cases not seen until some time after the first rupture, the presence of a painful tumour fixing the uterus, often more marked on one side, usually filling up the pouch of Douglas, and sometimes reaching above the pelvic brim, when taken with the presence of metrorrhagia, the passage of decidual membrane, and the characteristic onset following on previous dysmenorrhœa with one or two missed periods, will usually lead to a right conclusion.

Treatment.—Had it not been that quite recently I saw the report of a fatal case of ectopic pregnancy in which a surgeon was called in but declined to operate because of the collapsed condition of the patient, I should not have thought it worth while to remark on the treatment of these cases, as I think we are nearly all agreed that the arrest of hemorrhage by the ligature and removal of the bleeding tube should always be adopted when the rupture has taken place into the peritoneal cavity. A reference to my table of cases will show that three of the patients were pulseless at the time of operation, and in all three a pulse had returned at the wrist before the operation was finished, doubtless due to transfusion through the peritoneum by the absorption of the saline solution used in washing out the abdominal cavity to clear it of blood and clot. My former remarks will show that I believe there will seldom be any doubt in diagnosis, but even if there should be, it is infinitely better to make a small exploratory incision in the middle line than to stand idly by and allow the patient to die of hemorrhage when the simple application of a ligature could save her life. Such an exploratory operation need not necessarily open the abdomen, as in case of intra-peritoneal hemorrhage the blood shows through on exposing the parietal peritoneum. Even where the patient has partly recovered from the first hemorrhage I would urge operation, since a second hemorrhage may at any moment occur and prove fatal before operation can be arranged. When rupture has occurred into the broad ligament, operation is not called for, unless the hemorrhage be very excessive, or unless at a later stage it ends in suppuration. When it is borne in mind how fatal this accident is, and what a terrible condition the patient usually is in when the surgeon arrives, it is as astonishing as it is gratifying to know that the operation is so safe and satisfactory. For instance, had it not been for the accidental death from pulmonary embolism in a patient pulseless when operated on, I should have been able to record an uninterrupted series of recoveries; as it is, the one death in twenty-three only gives a mortality of 4·3 per cent.—*British Gynæcological Journal*, February, 1898.

119.—POST-PARTUM HEMORRHAGE.

By FRANK E. LOCH, M.D.

[The following is an excerpt from Dr. Loch's paper :]

The pillows should be removed from beneath the patient's head to prevent syncope and the hand placed over the uterus to stimulate contractions. A hypodermic injection of a standard preparation of ergot, such as Squibb's fluid extract, or the normal liquid ergot should be administered, preferably in the anterior or outer aspect of the thigh as approximating the part against which its action is directed. If necessary cold may now be applied over the lower abdomen by means of cloths wrung out of ice-water ; this should be done at short intervals, two or three seconds at a time only, in order that the shock may act as a factor in stimulating contractions. Ice may be used for the same purpose by gently rubbing with it, or cold water may be dashed over the abdomen. In case the uterus cannot be palpated through the abdominal wall, the hand must be introduced into the vagina and any clots removed as quickly as possible. The hand may be placed within the uterus itself and its walls scratched with the fingers, being kept in until forced out by the uterine contractions. A small piece of ice may be carried in with the hand, but if so it must be quickly removed. Having rapidly tried the foregoing methods without result we must endeavour to secure effectual contractions by the introduction of substances which act upon the uterus locally, as irritants. The substances are forcibly thrown in by means of a Davidson syringe, which it is well to have provided with a return-flow tube in order that the cavity of the uterus may not be distended. Water, as hot as can be borne by the hand (about 120° F.), should first be tried, as this, in addition to being an excellent styptic, causes contraction of the uterine walls and blood-vessels, and also prevents abstraction of heat from the patient, who is already more or less cold and exhausted. This may be followed in case of failure by vinegar or iodine. The iodine to be used should be the compound tincture made in accordance with the formula of Dr. Churchill, as this is the best preparation for use in an emergency. A sufficient quantity is added to water to produce a dark amber colour, and the injection made as before. It rarely fails to control the most frightful hemorrhage. In favourable cases, when proper agents are not at hand, a temporary cessation of the flow may be secured by compression of the abdominal aorta. A faradic battery, if at hand, may be employed to stimulate contractions by placing one electrode in the uterus and the other over the fundus upon the abdomen. When necessary to resort to packing of the uterus, strips of iodoform gauze should be used, sufficient to tightly fill the

cavity of the organ up to the fundus, the walls of the uterus being squeezed down upon it. This is removed after twenty-four hours and a hot antiseptic douche given. Having succeeded by means of some of the foregoing measures in securing a stoppage of the flow, a firm binder should be applied, and the patient's condition carefully considered. The depression following an excessive loss of blood will be considerable, and its effects upon the circulatory and nervous systems will be immediately manifested. The skin is cold and clammy, and there is distress, restlessness, small, frequent pulse, rapid respirations, and possibly fainting or convulsions due to the effects of the anæmia upon the brain-centres. The treatment of this stage is most important. The patient's head should be lowered and the foot of the bed raised; hot applications should be made to the extremities and warm compresses to the head. The circulation must be stimulated by the hypodermic use of cardiac stimulants, of which ether is probably the most rapid in its action, which may be followed by alcohol in some form or strychnine. If syncope threatens, the limbs should be elevated and a tourniquet applied over the femoral artery, or a Martin's rubber bandage, including the entire lower extremity, may be employed in order that the blood may be confined as much as possible in the upper part of the body. The hypodermic use of morphine or laudanum, as a cerebral congestant, is also advisable. If these measures fail to improve the pulse, warm coffee may be thrown into the rectum in small quantities frequently repeated, with brandy or whisky, if desired, as small quantities of fluids are rapidly absorbed from the rectum under these circumstances. Transfusion may be employed, or, what is usually more practicable, the intravenous or intracellular injection of salt solution, which, by increasing its bulk, tends to improve the condition of the circulation. The solution must be sterile, at about the temperature of the body, and should contain Zi of sodium chloride to Oj of water. About half an hour is necessarily consumed in introducing the solution by means of a small trocar, rubber tube, and funnel, all of which have been previously sterilised. An ordinary large-size hypodermic syringe may be used, but necessitates a great many punctures. When the circulation has been restored the patient must be nourished by the administration of small quantities of hot fluids by mouth, repeated at frequent intervals. Brandy and water may be first used, and gradually milk and broth may be added, and the quantities gradually increased. Great care is necessary in order to avoid nausea. Headache, restlessness, and pain, when present, must be controlled by the administration of opiates, and thirst, which is usually present, relieved by giving the patient ice and water in the intervals of feeding.—*Medical News*, April 16, 1898.

120.—THE TREATMENT OF PUERPERAL SEPTIC DISEASES.

By Drs. JEWETT and GRANDIN.

[The authors read a paper before the New York Academy of Medicine.]

The medical aspect of the subject was presented in a paper by Dr. Charles P. Jewett, of Brooklyn. This class of affections, he said, was strictly among the preventable diseases, and the accoucheur was usually responsible for their occurrence. Prophylaxis must begin many weeks before the time of labour, and among the predisposing causes to which he referred were anæmia, syphilis, vaginal disease, diarrhœa, constipation and auto-intoxication from the retention of excrementitious products in the system. He condemned the use of the douche after parturition, except in rare instances, as interfering with the normal processes, in which the parts were protected by the natural secretions. In order to treat any case intelligently an accurate diagnosis was required, and he advised a vaginal examination by the speculum. Any lacerations could then be packed, or otherwise treated, and if there were foul discharges a vaginal injection with peroxide of hydrogen or Labarracque's solution (1 to 10) should be made by the physician himself. No interference should be made with the uterine cavity unless it were positively known that this was affected. In exploring the cavity it was difficult to render the hand aseptic, and he thought the curette preferable, though curettage should never be lightly undertaken. For scraping the cornua, a special form of instrument was required. In the absence of *débris* in the uterus, the use of the curette was contraindicated. Under these circumstances the cavity might be painted with iodine or packed with an iodoform dressing. Intrauterine irrigation was permissible only so long as it was followed by a reduction of the temperature. The injection of steam at a temperature of 100° C. had been used with favourable results in France. In the systemic treatment, eliminants and tonics, such as strychnia and quinine (not in large antipyretic doses), were called for. Also concentrated liquid nourishment and, in many cases, alcoholic stiumlants in large quantities. The free use of water internally and externally in the form of cold bathing or sponging was often of great service. Plenty of fresh air was essential, and the intravenous injection of saline solutions had been employed with success. Ergot was thought to be useful in limiting the diffusion of the poison. The antitoxic serum treatment was as yet under trial, and no very definite conclusions could be made in regard to it at the present time. He

had employed it in six cases, but in one only had the results appeared to be satisfactory. Nuclein he had used in three cases, but with no result. Dr. Jewett's general conclusion was that, while of late years much had been added to our knowledge of prophylaxis, but little progress had been made in the medical treatment of puerperal sepsis.

Dr. Egbert H. Grandin read a paper presenting the surgical aspect of the subject. It was very important, he thought, to determine in any case under observation whether we were dealing with sapræmia or septicæmia. These conditions were very different, although, if allowed to go undisturbed, the former was apt to result in the latter. Curetting was liable to do injury, unless practised with great care, by breaking down the protecting bed of leucocytes which nature provided and thus causing a further extension of the trouble. We had, then, a putrid and a septic endometritis. The best means of diagnosis was the accoucheur's fingers. If any remains were found in the uterus, the curette was to be employed, but if there was nothing to remove, curetting should not be resorted to. He had found it advantageous to use sterile gauze to keep the cavity open. It should be removed in about thirty hours. Iodoform gauze was attended with considerable danger and he had rejected it. As to the use of the curette, the dull instrument was quite sufficient to remove necrotic tissue, but either the sharp or the dull curette was dangerous in inexperienced hands. In septic forms of endometritis, he thought the less interference the better, as over-action was apt to cause a diffusion of the poison into the tubes, ovaries and peritoneum. His own practice was to employ, after one injection, sterile gauze soaked in absolute alcohol. As to the matter of operation, it was a question not so much how as when. All inflammatory processes were modified by the puerperal condition, and the great aim should be to act before systemic infection was deep. When this was the case operation availed but little. In puerperal surgery he was the best judge who had for years made a study of the process of parturition, and not the general surgeon. Here, plastic peritonitis and cellulitis was apt to become septic, but in certain cases it was advisable to anæsthetise the patient and make an incision. As a rule, there were multiple septic foci, and the question of the justifiability of hysterectomy was as yet in an unsettled state. In this connection he mentioned the case of a woman, with multiple abscesses of the uterus, who recovered without operation and afterwards gave birth to a child. General septic peritonitis was the *bête noir* of the surgeon and particularly so when it was associated with the puerperal state. The septic condition rapidly affected the nervous centres and almost always proved

fatal. When the peritonitis was plastic the prognosis was less grave. It was in cases of the latter kind that opium proved of so much service. As long as a part of the peritoneum remained unaffected, however, there was a chance of success.

In the discussion, Dr. P. F. Mundé said that he had been much gratified by the conservative stand taken by the previous speakers as regards surgical interference. He had always been satisfied to keep the patient alive by combating high temperature and maintaining nutrition in every possible way, until the system could throw off the poison. Only within the last year had there appeared a ray of hope for a more successful treatment. He had recently treated two cases which he thought would certainly prove fatal with antitoxic serum, and both recovered. Whether this result was positively due to the serum he could not say; but at all events the gratifying fact remained that the patients got well. What we wanted now was more scientific reports regarding this subject. In regard to surgical interference, he was glad to hear it said that the curette was not to be used unless there was something to be removed by it. When there was no septic product to be removed he thought it was a mistake to employ the instrument, no matter how thick the inflamed endometrium, as it only served to open new channels for septic infection. Wherever pus pointed, it should be evacuated; but he did not believe in removing the uterus when the patient was in such bad condition that the operation was almost sure to prove fatal. In puerperal peritonitis he believed in incisions. It was true that the results were usually bad, but still a few patients recovered.

Dr. H. N. Vineberg said there was a class of cases in which the patient did well for five or six days, when the temperature would rise. The only local condition discoverable might be an enlarged uterus, and it would be found that a portion of the placenta had been left behind and was decomposing.

Dr. S. Marx, the chairman of the Section, took up the question, "Why is the antitoxic treatment successful in surgical sepsis, and not in puerperal?" He believed the reason was because in the latter the septic condition was complicated by unknown factors incidental to the puerperal state. He had employed the serum treatment in five cases, in four of which a careful bacterial examination was made, and his experience had convinced him that the infection present was of such a nature that we had to deal not only with the streptococcus, but with some other element as yet undetermined. All the five cases proved fatal. He was of the opinion that the many favourable cases reported from abroad were in reality cases of sapræmia, which would have recovered under almost any treatment.—*Boston Medical and Surgical Journal, November 25, 1897.*

121.—COMPARATIVE INDICATIONS FOR CLASSIC AND PORRO-CÆSAREAN SECTION.

By J. H. CARSTENS, M.D.,

Chief of Staff and Gynæcologist to Harper Hospital, &c.

[From Professor Carsten's paper.]

From my own experience and from what I have read and heard about it, it seems to me that both operations are indicated, that each case must be judged by itself, and that no absolute rule can be laid down. A few years ago I performed a Porro-Cæsarean section in the case of a woman, in her first pregnancy, who had a large tumour back of the rectum, which I found to be hard and fixed and not removable. It might be an exotosis or an osteosarcoma, it might be acquired, or it might be congenital; I could not tell. It filled the hollow of the sacrum entirely and diminished the anterior posterior diameter to six centimetres. If this woman should again become pregnant, she would again be subject to a serious operation, and as the child was living, I thought the proper operation would be a Porro-Cæsarean section, which I did by the extra-peritoneal clamp method. The woman made a splendid recovery, is to-day, five years afterwards, the picture of health, and her child is also living, which shows that the growth, whatever it was, was benign, and I think at this date, as I did at the time, that I did the proper operation. My next case was a woman in her second pregnancy. I had delivered her the year previously, in consultation, by means of craniotomy, Tarnier's forceps and the cranioclast with great difficulty, and at the time I warned her that if she became pregnant again, labour must be produced at the seventh month, or perhaps even an abortion be performed. She had a universally contracted pelvis, with an anterior posterior diameter of seven centimetres. Neither her family physician nor I heard of her until she was in labour, and she stated that she was anxious to have a child, and as a seven months' child did not generally live, she was perfectly willing to undergo a Cæsarean section. I immediately transported her to the hospital and operated upon her, also doing a Porro for the same reasons as in the first case. She made a splendid recovery, and, with her child, is still living. The operation was performed over four years ago. After that I did not see another case until February 18, 1897, when I was called by the house physician to see Mrs. L., aged 26, second child, who had entered the Open-door Department of the Women's Hospital. The patient had been taken in labour, about twelve hours previously, with very strong labour pains. The doctor found a tumour, partly filling the pelvis, which she thought might be moved and shoved out of the way. On examination I found a tumour

filling the hollow of the sacrum. It was hard and firm, and with the patient under chloroform, and placed in various positions, knee-elbow, &c., it was impossible to move it. It was firmly fixed, and hard bony structures could be felt in the tumour. I diagnosed a dermoid, but saw that it was utterly impossible to deliver her, as the anterior posterior diameter was diminished to less than five centimetres. The os was well dilated, and the bag of water ruptured. I had her immediately prepared, and performed a Cæsarean section, and stated I would decide after having the child delivered whether I would do a Porro or a classic section. The operation was quickly performed, and after the child and secundines were removed, I examined the tumour and found it springing from the left ovary, and adherent in the cul-de-sac, rectum, &c. With some difficulty I broke up adhesions and removed it, and finding the pelvis large and roomy, and with no obstruction to future labour, I decided to simply sew up the incision in the uterus and preserve the other generative organs. The incision was sewed with fine sterilised catgut, with deep and superficial sutures, in the usual manner, and the abdominal incision closed with *en masse* silkworm gut sutures. The woman rallied well from the operation, and got along very well for five days, the temperature not exceeding 101 degrees, lochia normal and perfectly clean. She had carbolised douches every day, her bowels were moved on the third day, but there was one suspicious symptom: that was a rapid pulse, from 120 to 130. Still, the patient felt perfectly well until the evening of the fifth day, when she suddenly collapsed and died of heart failure. On account of the rapid pulse I was a little suspicious, and examined the woman carefully on the fourth day, with a Sim's retractor, and found issuing from the uterus a sanguinary, purulent, bad-smelling discharge. There was no doubt to my mind that she was suffering from sepsis. I carefully cleaned the uterus with absorbent cotton and swabbed it out with carbolic acid, but it was of no avail. On post-mortem examination the uterus was removed, the abdominal cavity was perfectly normal, and the incision in the uterus was closed strongly and firmly. Inside of the uterus, in the line of the incision, there was an ulcerative process going on. Dr. Sargent kindly made a careful bacteriologic examination, but only found the staphylococcus pyogenes aureus. This clearly shows that the operation had nothing to do with the result, but the infection came from the vagina, and as she had been examined by all the house physicians and a number of students, as well as myself, there must have been a break somewhere in the aseptic care. If I had performed a Porro in this case, I have no doubt that the woman would have recovered, and still, I would repeat the operation in the next case under the same

circumstances. These operations were all performed in a hospital, which is entirely different to operating in a private house with poor facilities and poor assistance. That is another factor, and it seems to me that if we could lay down the general rule, that in cases where patients have a small pelvis, so that in future they might be subject to the same danger, the question should be placed before them, and they should decide which operation they will have. In other cases, where patients must be operated upon at their own homes, with poor facilities, the Porro operation is far safer—put on a clamp, or a heavy ligature, if nothing else is at hand, and sew up the abdominal wall, treating the stump extraperitoneally. However, in cases where the obstruction is due to a tumour, where any morbid condition which can be remedied at the time of the operation or later on, and where a woman would not be subject to such danger in future pregnancy, it seems to me that the uterus should be preserved, and if the child is dead it should certainly be preserved; yes, even if the child is living and future pregnancy can be ended at the seventh month without danger to the mother, the uterus should not be removed. I even think that the uterus should be preserved in cases where women live in medical centres and can be removed to a properly equipped hospital if a future pregnancy should occur. In these cases, very often, the uterus becomes adherent to the anterior abdominal wall, and in future operations direct incision of the uterus can be made without opening the peritoneal cavity, and thus the danger of an operation is very much lessened. Whether it would not be best to attach the uterus to the anterior wall while we are performing operations, so as to be sure that it will become adherent and remain there, has occurred to me. It is simply anteriorly fixed and should cause no trouble.

I would suggest, as the result of my limited experience, the following general rules for cases requiring Cæsarean section:— (1) Cases operated upon at private houses, with poor facilities and by inexperienced abdominal surgeons, should be subject to the Porro operation, using the extraperitoneal clamp method. (2) Cases of deformed pelvises, perhaps requiring a similar operation in the future, should be subject to the Porro operation, even if operated upon in a well-equipped hospital, unless the patient decides otherwise. (3) Cases requiring abdominal section on account of removable tumours only should be subject to classic Cæsarean section if the operation can be performed in a hospital, or in a private house where all proper facilities can be obtained. (4) Classic Cæsarean section should also be performed if the patient desires it, no matter what the future may bring forth.—*Journal of the American Medical Association, December 4, 1897.*

122.—ON DIGITAL EXPLORATION OF THE UTERINE CAVITY.

By THOS. WATTS EDEN, M.D., M.R.C.P., Senior Assistant,
Physician to the Chelsea Hospital for Women.

[The following excerpt is taken from Dr. Eden's paper :]

The rapid method accomplishes full dilatation in from fifteen to twenty minutes, and always requires an anæsthetic. It consists in passing a series of graduated metal or wooden "dilators" through the cervical canal and up to the fundus of the uterus. The canal is dilated by main force, and some amount of laceration of the tissues, especially near the internal os, invariably accompanies it. If the external os is rigid, it may be necessary to divide it in one or two places with scissors. In a nulliparous uterus, it is not only the cervix but also the body that must be dilated, and resistance will be encountered right up to the fundus after the first few dilators have been passed. It is obvious that the two methods may be usefully combined in many cases, a tent being introduced at first, and the dilatation subsequently completed under anæsthesia by the rapid method. This plan has the great advantages of facilitating the passage of the dilators by softening the cervix, and thus diminishing the amount of mechanical injury done to it, and also of shortening the procedure under anæsthesia. A glycerine tampon placed against the cervix for twelve hours before dilatation also serves to soften the tissues and render dilatation easier, but is less effective than the tent. Before the dilators are passed the patient must be anæsthetised, and in all cases the vulva should be shaved (up to but not including the mons veneris) and carefully disinfected, first by cleansing with soap and water, and finally swabbing with a one in one thousand perchloride solution. Then the antiseptic vaginal douche is given, and by the help of a speculum the vaginal vault and cervix swabbed thoroughly with cotton-wool mops. No matter how carefully the vaginal douche may be used by the nurse, accumulation of secretion will generally be found here. With the vulva and vagina clear there is no risk of carrying infective material from these parts into the uterus with the instruments or upon the finger. The greatest care must also be taken to ensure the hands and instruments are aseptic. In comparing the rapid and slow methods of dilatation, the preference is generally given to the former on account of the convenience of performing the whole operation at a single sitting. The only objections to it are the injury which is in almost all cases inflicted upon the cervix and the risk of driving the point of the dilator through the uterine wall. If antiseptic precautions have been carefully practised

no harm ever results from tearing the cervix with the dilators or snipping it with scissors. And unless the uterine cavity is septic even perforation with a small-sized dilator is usually followed by no bad result. But in malignant disease of the uterus or in the presence of a sloughing fibroid, this accident is rapidly fatal from septic peritonitis. In these cases, therefore, especial care is called for in the use of the dilators. The mishap is best avoided by carefully determining the direction of the uterine canal by the bi-manual examination and the use of the sound before the first dilator is passed. When once the channel is struck there is little risk of the point of the instrument going astray. By pulling the cervix well down with the volsellæ the organ is straightened, even in cases of marked flexion.

The use of tents is contraindicated by offensive or purulent discharges from the uterine cavity. It is obviously unsafe to block up the channel by which these discharges find their exit. In cases of retained products of conception the cervix is usually soft and patulous, and dilatation by the rapid method is easily accomplished. But with a nulliparous rigid cervix the combined method offers great advantages, for without the previous use of a tent it may be impossible to dilate the cervix sufficiently to admit the finger without seriously lacerating its tissues. It is never worth while, however, to trust entirely to the tent for accomplishing sufficient dilatation. The cervix being fully dilated the lips of the os externum are firmly held by an assistant with two pairs of volsellæ, and the cervix drawn down as far as possible towards the vulva. The forefinger of one or other hand is then worked gradually through until the fundus is reached. Very great differences in the size of the uterine cavity are met with : a nulliparous uterus grips the finger like a tightly fitting glove ; with a parous uterus the only difficulty is, as a rule, to get the middle knuckle through the internal os. The finger then enters a roomy cavity, the walls of which can easily be palpated. While the finger is being thus passed the body of the uterus is seized by the other hand through the abdominal wall, as in a bi-manual examination. Holding the body of the uterus thus facilitates the passing of the finger, and enables the operator to judge of the thickness of the uterine walls, and the presence of small growths (*e.g.*, intramural fibroids) in its anterior walls or posterior walls. In a healthy uterus two shallow depressions are met with at the sides of the fundus, which correspond to the entrance of the Fallopian tubes. Similarly in the cervix the tearing of the tissues from rapid dilatation is readily detected by the finger, and must not be mistaken for a pathological condition ; it is most marked about the level of the internal os, and some-

times gives rise to troublesome bleeding. Indeed, whenever hemorrhage persists after dilatation, it is safe to conclude that it comes from the cervical canal, bleeding from the wall of the uterine body being controlled by reflex contraction. The contraction is evidenced during dilatation by the forcible expulsion from time to time of fluid and clotted blood from the uterus, and later by the firm grip upon the finger when the latter is introduced into its cavity.—*Treatment, April, 1898.*

123.—SENILE UTERINE CATARRH.

By J. HALLIDAY CROOM, M.D., F.R.C.P.Ed., Physician to, and Clinical Lecturer on Diseases of Women, Royal Infirmary, Edinburgh.

[The following is taken from Dr. Croom's paper.]

The condition which I propose shortly to discuss is one which is much more frequently met with in private than in hospital practice. With the ordinary uterine catarrh of fertile women everyone is familiar, due to a condition of subacute endometritis, and one of the most frequent causes of sterility. The importance, however, of the condition occurring after the climacteric cannot be questioned, and I am sure that a due appreciation of it would save many an unfortunate woman from vaginal hysterectomy, which, with improved methods and increased safety, is too apt to be had recourse to without adequate reason. It is well known that the great difficulty in the management of such cases is the differential diagnosis from malignant disease, but it seems to me that this is exaggerated, and that with due care and no unnecessary haste an accurate diagnosis can be made in the majority of cases. I recognise three forms of senile uterine catarrh—(1) Those associated with foetid discharge and no hemorrhage; (2) those associated with leucorrhœa and slight hemorrhage; and (3) those in which hemorrhage is the main if not the only symptom. Of course everyone is aware that post-climacteric hemorrhages are due in the main to (1) the commencement of cancer, or (2) to the recrudescence of a fibroid, or (3) occasionally in gouty women, but of course, in the gouty condition, it is only a form of uterine catarrh, with gouty endometritis as its basis.

The symptoms are extremely like those of malignant disease. The patient suffers from vaginal irritation, and shows marked signs of general cachexia, the skin becoming sallow, and general emaciation sets in. This is really due to a slow sepsis, which is further shown in occasional rigors and night sweats. The most striking symptom, and that for which the patient generally

seeks advice, is the vaginal discharge, which is watery and semi-purulent, though frequently it contains a considerable amount of blood. The odour of this discharge cannot be said to be characteristic ; it is, as a rule, though not always, most offensive, and in some cases I have seen has been even more so than in marked cases of cancer. It may cease from time to time, and when it reappears it is generally with a gush of sanious pus. Along with these symptoms there is frequently a certain amount of abdominal pain, pain in the back, and "progressive invalidism." Per vaginam, one finds the uterus slightly enlarged or more often normal in size—as a rule, not normally atrophied. The introduction of the sound causes great pain, and if a scraping be removed, this shows inflammatory changes—infiltration of leucocytes, reduplication of cells, and granular degeneration. The mucous membrane of the uterus has become hypertrophied and succulent, and is easily detached. In cases of malignant disease of the body of the uterus, all the above-mentioned symptoms are aggravated, but on vaginal examination the uterus is always markedly enlarged and much more fixed than in senile catarrh. Real "floodings" are much more common in cancer than in the simple condition. With appropriate remedies, senile uterine catarrh will be found to rapidly improve in the course of a week or two, whereas any treatment other than operative is of no avail in malignant disease ; and I have only very seldom found that in doubtful cases the delay at all interfered with the ease with which vaginal hysterectomy was later, if necessary, performed.

Now, with regard to the differential diagnosis between primary corporeal cancer and senile uterine catarrh, the following points are worthy of consideration :—First and foremost, in most cases of primary fundal cancer, periodic and severe pain is an early and prominent symptom ; whereas in senile uterine catarrh the pain is irregular and colicky, or, if not, it is slight and constant. Secondly, in cancer, foetid discharge, at least in the earlier stages, is unusual, because the os is closed, and the surface of the cancer is protected from external influences ; whereas in catarrh, especially in the first two forms I have mentioned, foetid discharge is a prominent and early symptom. Thirdly, local examination in cancer finds the uterus distinctly enlarged, sensitive, and early becomes heavy and fixed ; whereas in the simpler condition the uterus either is normal or only slightly enlarged, and remains freely movable throughout. And, lastly, dilatation and local exploration reveals the presence of a neoplasm in the one case and the absence of all irregularities in the other.

I should like strongly to insist that this condition of senile uterine catarrh is not prodromatic of malignant disease ; the

two are quite distinct, and I have never seen a case of the simple condition later become one of cancer. As regards the treatment adopted, when the condition is non-malignant or doubtful, I have had the best results from rest, hot douching, and the internal administration of arsenic, strôphanthus, and chian turpentine. To give the last-named drug may seem contradictory, as it was long supposed to have beneficial effects in cases of cancer. This I do not believe, but it is quite certain that it has a good effect on inflammatory conditions; and it seems to me it has almost an equally good effect in clearing up purely uterine inflammation, as in cervical inflammatory hypertrophy. Nothing gives better results than either the application of escharotics by means of dressed sounds, or, still better, the curettage of the mucous membrane, with subsequent packing and draining. The main point I wish to insist upon in this paper is the fact that these cases are so often mistaken for malignant conditions; and I have repeatedly had patients, supposed to be suffering from malignant disease, sent to me for hysterectomy, who were sufferers from the simpler condition, and which responded to simple treatment.—*Edinburgh Medical Journal, April, 1898.*

124.—ENUCLEATION OF UTERINE FIBROIDS.

By WILLIAM ALEXANDER, M.D., F.R.C.S., Surgeon to the Royal Southern and Workhouse Hospitals, Liverpool.

[The following is from Dr. Alexander's paper:]

Opinions are divided as to the treatment of uterine fibroids. Some medical men hold that severe operative treatment is very rarely required, and that medicinal treatment and the occasional performance of minor operations, such as dilation of the uterine canal, curetting, and electrolysis, will tide most cases of fibromyoma over the menopause. When this period is reached the tumours may be expected to shrink in size, and to become innocuous. Others hold that fibroids are not the comparatively harmless growths that they are sometimes represented to be, but that they kill their hosts more frequently than many medical men admit, and that to prevent their harmful and often fatal effects a severe mutilating operation is not only justifiable, but one to be recommended.

My own experience is that once a fibroid asserts itself by symptoms or signs the life of the patient is always more or less spoiled. She may live to the average age, but even then her life is very often that of an invalid, often that of a great invalid. As to her prospects of existence, no medical man would

recommend her at first-class rates to an insurance company, and probably she could not obtain an insurance policy from any office, a sure proof that the disease shortens life either directly or indirectly. Apart from the more grave cases, many others have lesser symptoms, such as a sense of weight, dragging pains in the back, irritable bladder, attacks of metrorrhagia, uterine displacements, sterility, that render their lives very uncomfortable, if not rather miserable. In these, if married, we have the risks of abortion with its complications and sequelæ, and the greater risks accompanying parturition or those attending the artificial terminations of labour. Most of these cases would be much healthier and happier without their fibroids, if these could be removed without great risk and without much sacrifice of healthy organs. When such patients seek complete relief the treatment hitherto advised seems to me to more than justify the attitude of those who are reluctant to try such means of cure, except for cases where life is threatened or the condition of the patient very wretched indeed. Except in a few cases, where the tumour can be enucleated through the natural uterine and vaginal passages, and some more or less pedunculated sub-peritoneal fibroids that may be ligatured and snipped off or enucleated, the operative treatment of most single and of all multiple uterine fibroids is extremely sweeping in its extent. The mildest plan is by removal of the ovaries and tubes, but this is not so certain as partial removal of the uterus and fibroids, with or without removal of the appendages, and this is not so neat as removal of the uterus and tumour through the vagina; and this is not so easy or so applicable to all cases as pan-hysterectomy, by which all the internal reproductive organs are removed at one fell swoop. The medical journals contain many references to the more severe operation, even for small fibroids, and in young people, and with good results as far as the mortality is concerned. But lessened risk of death from an operation does not necessarily justify an operation.

The operative evolution from partial hysterectomy to vaginal and pan-hysterectomy in the treatment of uterine fibroids, was no doubt legitimate from an operative point of view, as these latter operations are cleaner and safer, and the difference in the amount of mutilation in each is small and unimportant. But if it should become safe to remove the tumours alone without removal of the uterus, ovaries, or appendages, then in all cases it is better surgery to only remove the offending parts, and in young women with small tumours the conservative operation would be obligatory.

In the year 1894 I read before the North of England Gynæcological Society a case where I removed a large uterine fibroid from the fundus uteri and left behind nearly all the

uterus as well as all the uterine appendages. A circular incision was made round the tumour down to the capsule, and the tumour was enucleated below the incision. Hemorrhage was restrained by a stout double silk ligature, passed through the transfixed fundus uteri just below the tumour and tied tightly at each side. A large mass of lint steeped in perchloride of iron was laid in the cavity whence the fibroid has been enucleated, and the lint was firmly held in its place by tying over it the ends of the ligatures that had transfixed the uterus. Fear of hemorrhage suggested the iron and the pressure. The peritoneum was stitched to the uterus so as to surround it just below the ligature, and the wound closed. There was no sloughing and no hemorrhage, and the uterus gradually dropped into the abdominal cavity perfect except for the piece of the wall of the fundus taken away with the tumour.

[The details of the cases in which enucleation was performed are left out here.]

We have thus recorded 11 cases of uterine fibroids, some of them of a very grave character, treated by this method of enucleation, with one death from the operation. This death was not so much due to the special operation *per se* as to an accidental complication that may follow any abdominal section. With the experience now gained I think the mortality, after these operations, will in the future compare very favourably with any operation for abdominal tumours. A low mortality being secured, the non-mutilation of the patient should give this operation a tremendous advantage over the other deprivative operations. Hemorrhage was the great danger dreaded in the performance of these operations, but I found it was not so great as anticipated, and that it could be controlled by pressure forceps and sponges in much the same way as in operations elsewhere. The treatment of after-oozing was a matter of great concern. It was necessary to prevent any trickling of blood into the abdominal cavity, and at the same time to leave the uterus inside the abdomen in a natural position and in a natural state when the wounds had all healed up. The conditions have been fully attained by the method of treatment adopted. The removal of all the tumours does not present any difficulties. The operation is a plain, straightforward one, much easier than pan-hysterectomy, and very much easier than vaginal hysterectomy for these fibroids. I do not recommend it as a panacea for fibroids. But in all cases enucleation can be considered as the most desirable of all the operations for uterine fibroids, if it can be safely and conveniently performed, and I can recommend the method of treating uterine fibroids to greater consideration at the hands of the profession than it has so far obtained.—*Medical Press and Circular, April 6, 1898.*

125.—THE INFLUENCE UPON NERVOUS AFFECTIONS
OF OPERATIONS UPON THE FEMALE
PELVIC ORGANS.

The data which Drs. Angelucci and Pieraccini present are based upon reports made to them by heads of public and private asylums and psychiatric clinics in various countries, embracing a total of 115 cases in which surgical operations were performed upon the female sexual organs, either healthy or diseased, to combat some nervous disorder, or to remove diseased organs. One hundred and thirty-seven of the asylums and clinics interrogated had had no cases of the sort. Out of seventy-six alienists, directors of asylums or clinics, fifty-six, more or less, strongly disapproved of such operations, twelve had not had sufficient experience to warrant a personal opinion, five were uncertain, and only three favoured such operations in the treatment of hysterical conditions.

Of the 115 cases six were subjected to a simulated operation for the relief of hysterical conditions. Of the remaining 109 cases sixty-five had healthy organs removed for the cure of nervous conditions, eighteen nervous patients had diseased organs removed, and twenty-six women neither insane nor hysterical had diseased organs removed. Forty-one cases of hysteria had healthy organs removed on account of the nervous trouble; of these seventeen became insane, ten grew worse, eleven were unaffected, and three were cured. Eighteen cases of hysteria had diseased organs removed; three became insane, six were unaffected, and nine were cured. Twenty-four women neither hysterical nor insane became insane after diseased organs were removed and two others became neuropathic. Twenty-four insane women had healthy organs removed for the cure of their insanity; nineteen grew worse or were unaffected, and five improved or were cured. In only seventeen cases, therefore, were the results favourable, and of these only three were cured of hysteria or other nervous disturbances by the removal of healthy organs. Inasmuch as six cases of hysteria were apparently cured by simulated operations the investigators naturally inquire how far, in these cases where actual operation was done, the influence of suggestion may have been felt.

As a result of their inquiry Drs. Angelucci and Pieraccini conclude that the removal of the uterus or its adnexa, if in a healthy state, is to be prescribed as a means of treatment of hysteria or insanity, and that the existence of hysteria is almost a contra-indication for any serious gynæcological operation. If any such operations are undertaken the indications must depend upon the gravity of the uterine or ovarian disease,

and not upon any hope of a favourable influence upon the nervous conditions. The only favourable influence upon these latter conditions is in the way of suggestion. If all other means have failed in combating hysteria a simple incision, simulating a laparotomy, may sometimes be admissible by way of suggestion.

Taking the statistics, as the present writers have done, from reports furnished by asylums and psychiatric clinics, it is possible that the proportion of cases injuriously affected by such operations is unduly large, since the physicians in charge of such institutions might have less opportunity for observing the cases which were entirely cured of any nervous or mental trouble after the operation. Nevertheless, any serious cases of nervous or mental trouble which were cured by operation would naturally have come under the observation of these men during the time when they were suffering from such trouble, so that the proportion is really nearer the truth than it might at first seem. Furthermore, as is well known, the statistics of cases from surgical reports only are too often based upon the immediate results of operation, without waiting to note the later developments in regard to any nervous troubles. It is therefore safe to accept the conclusions of Drs. Angelucci and Pieraccini as endorsing the belief that the removal of healthy organs for the relief of nervous or mental troubles is wholly unjustifiable. (From abstract in the *Boston Medical and Surgical Journal*, September 23, 1897.)—*Therapeutic Gazette*, December 15, 1897.

126.—PROLONGED LABOUR.

By JOHN MABERLY, M.R.C.S. Eng., &c.

[The author reports three cases, and makes the following comments:]

When we come to examine these cases we find that they agree only in one point—viz., the abnormally prolonged time of labour. They differ materially in the causes producing this result and in the effects on the patients. They illustrate very clearly the different effects on the mother of labour prolonged during the first stage, when the head is still above the pelvic brim, contrasted with that in which it is prolonged in the second stage, with the head tightly wedged in the pelvis and causing pressure on the maternal soft parts. In Cases 2 and 3 no ill-effects were noticeable, although the membranes had broken twenty-four hours or more previously to delivery, but in Case 1 the result was fatal to both mother and child, although, according to the midwife's statement, the head had

not been lying in the pelvis for more than eight or ten hours. As regards the causes of the prolonged labours, the three cases differed essentially from one another. In Case 1 matters probably went on fairly normally until the head reached the perinæum, and then the patient becoming exhausted the propulsive force of the uterine contractions became proportionately weakened, with the result that no further progress was made. If at this time proper assistance had been given in the way of forceps there can be little doubt that the fatal result would have been avoided. Case 2 was clearly one in which no natural efforts would have brought about delivery owing to the abnormal size of the head, and the result obtained justified the extreme measure of destroying the child in order to save the mother. In Case 3 it is questionable how long labour would have been prolonged if it had been left to nature, owing to the want of proper uterine contractions, and it was, I think, one of those exceptional cases in which the administration of ergot during the first stage of labour was not only justifiable but very beneficial in rousing the sluggish uterus when, after careful examination, it was found that there was no obstruction to rapid delivery. In this important point this case differs fundamentally from Case 2, in which the administration of ergot would possibly have led to rupture of the uterus, or at any rate would have been a most dangerous and unscientific proceeding.—*The Lancet*, June 25, 1898.



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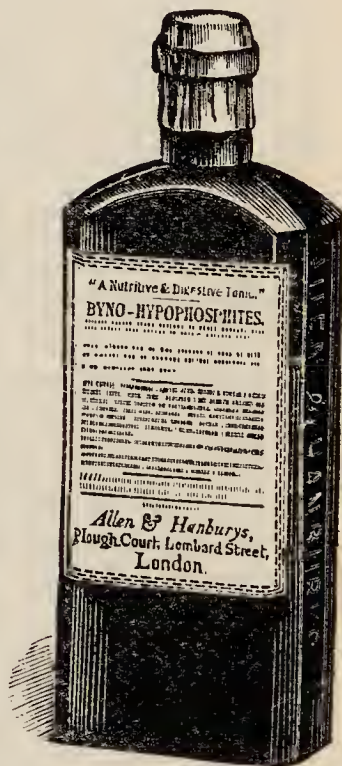
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- „ 32—Red Gum and Chlorate of Potash (Gum: Rubr: gr: ii, Pot: Chlor: gr: i.).
- „ 14—Tannin, 1 grain.
- „ 29—Rhatany and Cocaine (Ext: Kramer: gr: ii. Cocain: gr: 1-10th).

For Overstrain of Throat involving Relaxation.

- No. 38—Chlorate of Potash, Borax and Cocaine (Pot: Chlor: et Boracis aa. gr: i. Cocain: gr: 1-20th).
 - „ 47—Alum and Tannin (aa. gr: i.).
- The-e are also useful in relieving granular pharyngitis (Uergymen's Sore Throat). For the removal of the Tenacious Mucus, Ammon: Chloride Pastilles are indicated.

For Irritable Relaxed Throat with Elongated Uvula.

- No. 29—Rhatany and Cocaine (Ext: Kramer: gr: ii, Cocain: gr: 1-10th).
- „ 31—Red Gum and Cocaine (Gum: Rubr: gr: ii, Cocain: gr: 1-20th.)
- „ 24—Cocaine, 1-10th and 1-20th grain.
- „ 16—Bromide of Ammonium.

For Sore Throat of Influenza and Fever.

- No. 6—Aconite. Each Pastille equals $\frac{1}{2}$ minim of B.P. Tincture.
 - „ 2—Ipecacuanha, $\frac{1}{2}$ grain.
- Both are useful for the Feverish Colds of Children.

For Sore Throats & Tracheitis, Influenza Cold.

- No. 43—Menthol, 1-10th and 1-20th grain.
- „ 19—Chloride of Ammonium, 2 grains. Stimulant Expectorant.
- „ 4—Compound Morphia and Ipecacuanha (Morphinæ, gr: 1-40th; Ipecacuanhæ, gr: 1-5th; Scillæ, gr: 1-5th).
- „ 45—Menthol and Rhatany (Menthol, gr: 1-20th; Ext: Kramer: gr: ii.)

In ordering these Pastilles numbers may be quoted for convenience.

These Pastilles are supplied in 1-lb. bottles, and in boxes containing 3 oz.

For Acute Tonsillitis and Diphtheritic Throat.

- No. 44—Menthol and Cocaine (aa. gr: 1-20th).
- „ 46—Menthol and Bromide of Ammon. (Menthol, gr: 1-20th; Ammon. Bromidi, gr: i.).
- „ 15—Carbolic Acid, $\frac{1}{2}$ grain.
- „ 41—Eucalyptus Oil.
- „ 30—Boracic Acid, 1 grain.
- „ 5—Opium and Belladonna. Equals the Lozenges of the B.P.

Compound Guaiacum, Guaiacum, Potash Chlorate, and Red Gum may be used with advantage in stages of recovery or Chronic Enlarged Tonsils.

For Acute Pharyngitis, Acute Inflammation of Pharynx

AS ADJUVANT USE.

- No. 5—Opium and Belladonna. Equals the Lozenges of the B.P.
- „ 6—Aconite. Equals $\frac{1}{2}$ minim of Tincture, B.P.
- „ 24—Cocaine, 1-10th and 1-20th grain.

During recovery, use ASTRINGENT PASTILLES.

For Irritable Throat of Phthisis, Laryngeal Phthisis.

- No. 1—Morphia, 1-40th grain.
- „ 26—Codeine, $\frac{1}{2}$ grain.
- „ 34—Terebene, 2 minims.
- „ 36—Pumilio Pine, 1 minim.

For Ulcerated Conditions of Mouth, Tongue, Gum Boils.

- No. 17—Chlorate of Potash and Borax, aa. gr: i.
- „ 30—Boric Acid, 1 grain.
- „ 15—Carbolic Acid, $\frac{1}{2}$ grain.

Allen & Hanburys Ltd., London.

Offices, Laboratories & Warehouse—BETHNAL GREEN, E. City House—PLOUGH COURT, LOMBARD ST., E C. West End House—VERE ST., W. Cod Liver Oil Factories—LONGVA AND KJERSTAD, NORWAY. AUSTRALIA—484, COLLINS ST., MELBOURNE. SOUTH AFRICA—FENWICK & CO., DURBAN, UNITED STATES—82, WARREN ST., NEW YORK. CANADA—W. LLOYD WOOD, TORONTO, See also Pages i, ii, iii, and 425.

