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ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID.

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IN bringing before you these few notes on the treatment of typhoid fever, I feel that, although the subject is somewhat well worn, no apology is necessary, since every form of treatment so far advocated has, in its general application, met with but a very limited degree of success. The result can scarcely be termed a success in any sense; for typhoid infection has hitherto, no matter what form of treatment may have been adopted, entailed a more or less prolonged period of severe illness, with great prostration, not to mention the very considerable risk of a fatal termination ensuing.

The many plans of treatment advocated from time to time indicate clearly the unsatisfactory results attained. This dissatisfaction was felt to such a degree that it expressed itself in what has been termed a form of treatment which consisted, in essence, of no treatment whatever in so far as the disease was concerned; whatever was done being simply in the way of looking after the patient's surroundings and promoting his comfort. This "expectant plan," as it has been termed, has still many adherents,

some of whom have apparently come to the definite conclusion that any attempt at curative treatment must of necessity be futile. Indeed, this even is expressed explicitly, for in a recent text-book the author begins his chapter on treatment with the reflection that "the profession was long in learning that typhoid fever is not a disease to be treated by medicines."

Until the developments of recent years regarding the nature and causation of the disease, the various treatments were of necessity empirical. Now, however, since the discoveries in bacteriology have demonstrated both the cause of the disease and the manner in which it produces its effects, we are in a position to proceed logically. In order that we may do so it is, however, necessary that we have a clear conception of the nature of the causative agent, and also, what is in this case of more importance, the manner in which the results of infection are produced.

Before proceeding to discuss the plan of treatment which I am advocating in this paper, let us review briefly what we know regarding the pathology of the disease and the nature and *modus operandi* of the infective agent. It is now well established that typhoid fever is the result of the location and growth in the body of a specific form of bacterium. It may, perhaps, be conceded that other organisms, in addition to the specific bacillus, play some part in the production of the phenomena of the disease. It is, however, sufficient for our purpose that we ascribe the results to infection by minute fungi, which are located primarily and chiefly in the alimentary canal. It is just as clearly established that these bacteria are themselves harmless, whatever results are produced as a consequence of their lodgment and growth in the body being due to the action of a chemical substance elaborated by them in the process of growth. For it has been demonstrated by Brieger, and also by Vaughan and Novy, that this typho-toxine, as it has been named, separated from bacterial cultures, will cause necrosis of the tissues with which it comes in contact, the severity of the lesion produced depending upon the degree of concentration of the poison. It is, in fact, as Woodhead expresses it, a "caustic." If a certain quantity of this substance be given, it causes dilatation of the pupil. Delirium is a result of its action upon the cerebral centres, this condition merging into paralysis and coma if the dose be sufficiently increased. Elevation of temperature depends upon its action upon the thermic centres. We have, then, to consider the bacterium and its product, and we place them respectively in the relation of remote and immediate cause to all the phenomena of the disease. The condition is, in fact, a poisoning by a chemical substance, which is not taken at one or at several doses, but which is produced constantly and gradually in the body itself. The main laboratory for its formation is the intestinal canal; for while the bacilli are found in the lymph spaces, blood, and solid viscera, yet the

great mass of bacterial growth is located in the intestinal tract. We must also notice that the amount of toxine produced is, of necessity, in exact proportion to the number of bacilli present. In like manner, the tissue changes and derangements of function occur in direct proportion to the quantity of poison generated, to its degree of concentration, and to the length of time it remains in contact with the tissues.

Having seen, then, that cell destruction in typhoid fever, whether in the lymph follicles of the intestine or in the wall of an artery, in the muscular fibre or in the nerve mechanism which governs its action, is due to this substance and to it only, and knowing also the source from whence it is derived and the conditions which intensify and diminish its action, can we by any form of treatment (1) get rid of any portion of poison already formed; (2) prevent, to any extent, the production of further poison; (3) limit, to any degree, the action of the poison already in contact with the tissues? I am of opinion that by the adoption of a plan of treatment which combines free elimination with antisepsis these several results can be obtained. Let us consider, first, the question of elimination, for I believe it to be the more important factor.

If we suppose a case of typhoid infection, the contents of the intestine teeming with bacilli, and also holding in solution a quantity of the toxic material as yet outside the circulation, and if by giving a purgative medicine we are able to sweep a quantity of this substance out, together with the fungi which produced it, we have certainly attained our first object, and have got rid of some of the poison already formed. But purgation not only casts forth what is already in the intestine, but also causes a change in the fluids of the body throughout; and if we reflect that the toxine which has been absorbed from the intestine, and which has been formed by the colonies of bacteria located in the various parts of the body, is held in solution by these fluids, we necessarily lessen its quantity by purgation. We are able to produce this desired change in the fluids of the body by another process—the giving of fluids freely, thereby increasing the flow of urine and eliminating through that channel.

We have next to adopt means to prevent further formation of poison. This can be accomplished by either of two processes—or, better, by a combination of the two—purgation and antisepsis. It is obvious that if we sweep out, with every movement of the bowels, immense numbers of bacteria which would otherwise remain in the body, we are to that extent preventing the further formation of poison. It is also clear that if we can introduce into the intestine any substance which will have the effect either of destroying the bacilli or of diminishing their rate of multiplication, a like result is obtained. It is, I believe, now beyond question that we have in salol, thymol, naphthol, salicylate of bismuth, and many others, a num

ber of agents which are destructive to bacteria localized in the intestinal canal. As a proof of this germicidal action, we have the fact regarding salol, which has been noted by various observers, and which my own experience corroborates, that it is possible to completely deodorize the contents of the intestine by giving this drug. The germicidal effects of these drugs is also well shown by the results obtained by their use in the treatment of mycotic diarrhœas.

Regarding the third indication for treatment, if we remember that the intensity of the action of the poison depends upon its degree of concentration, then it is apparent that to modify its action we have simply to dilute it. This we can do quite readily by giving water in large quantities, regularly and systematically. I am inclined to believe that the improved results obtained by enteroclysis and by the cold-bath treatment are explained in this way: By enteroclysis large quantities of water are taken up from the intestinal canal, and by cold bathing loss of water is prevented.

In theory, then, I claim that this plan of treatment, embracing free elimination and antisepsis—and I should add dilution—is most reasonable, and from a logical standpoint unassailable. Before, however, putting it in practice, we have still another question to answer: Is its adoption fraught with any increase of danger to the patient? I say, No. On the contrary, it diminishes the risk to which he is exposed.

I am well aware that purgation in typhoid fever has hitherto been condemned because it was believed the liability to the occurrence of hemorrhage and of perforation were much increased thereby. I am also aware that the professional mind has undergone some change regarding this subject in recent years; *e.g.*, Fagge, of 1886, cautions against the initial purge, claiming that much harm resulted. To-day, many authors ascribe benefit to its action on the general principle of clearing out.

Let us first look at the facts concerning perforation. Since the extent of the necrotic process depends upon the quantity of poison present, its degree of concentration, and the length of time it is allowed to remain in contact with the cells, then it follows that elimination and dilution must lessen the destruction in the intestinal follicles. But suppose the ulceration to be deep at the time the patient comes under observation, are we then to allow the "caustic" to continue in its work of cell-destruction, or are we to attenuate and remove it in the way indicated? Certainly, the latter plan seems the reasonable one to adopt. It is, however, objected that the ulceration is perhaps so deep that any increase of movement consequent upon purgation may cause the rupture. Let us here notice what follows upon the administration of a purgative medicine. There is increase of peristaltic movement; but here we must remember we have

made no radical change, but have simply increased the rate of existing movement. Moreover, by purgation we get rid of irritating matter and gases which were perhaps exciting violent peristalsis. But, again, it may be urged that to accomplish this removal you must increase the expulsive movement still further; not necessarily so at that portion of the intestine, for purgatives act chiefly by virtue of their power to produce free secretion from the intestinal wall, so that the process is largely of the nature of a flushing out. Landon Brunton, by injecting a solution of magnesia sulph. into the intestine, was able to produce a secretion, in four hours, of fifty-six minims to the square inch of intestine acted upon.

Not only does purgation not increase, but it can be proved that it actually diminishes the chance of perforation. It is obvious that the more the intestine is distended, the thinner those structures which form the flood of the ulcer become. Now, this condition of distension is common in typhoid fever, and depends upon a paralysis of the intestinal muscles resulting from the action of the toxine upon the nerve centres. Hence, if by purgation the cause of the paralysis is got rid of, there is return of muscular tone, which is the condition least favorable for the occurrence of perforation.

Let us now turn to the question of intestinal hemorrhage, which hemorrhage can, of course, occur only from a vessel laid bare by the process of ulceration. At the outset, I should like to draw attention to two facts regarding arterial hemorrhage. Gowers, speaking of the pathology of cerebral hemorrhage, says that "the force that ruptures an artery is the pressure of the blood within it," and, again, "healthy veins may give way under extreme pressure, but arteries do so seldom, perhaps never." Accepting these statements, then, and applying them in typhoid fever, we have the two factors in the production of hemorrhage—the toxine corrodes the arterial wall, the blood pressure ruptures it. If we remove the toxic material from contact with the vessel and diminish the intensity of its action, we certainly, as in the case of the intestinal follicles, limit the extent of the damage to the vessel wall. But it is claimed that the increase of movement of the intestinal wall may cause laceration of the exposed artery. In other words, we are asked to believe that a vessel whose wall is so fragile that it may be broken by this slight increase of vibratory movement in the membrane in which it is lodged is at the same time, if freed from this extra movement, capable of sustaining the blood pressure. Then, again, is it a fact that increase of movement in the intestine involves strain upon the vessel which ramifies in its walls? One can understand readily enough how the vessel might be stretched and torn as a result of paralysis of the muscular wall of the intestine, and its consequent distension with gas. Purgation, then, to my mind, in no case causes rupture of an artery, but at all times tends to prevent its occurrence.

So strongly have I been impressed with the correctness of these views regarding the treatment of typhoid fever that for some time past I have carried them out in practice, with none but the happiest results. I have to report thirteen consecutive cases. In every case the plan of treatment was the same, and consisted of purgation very freely until the symptoms indicated lessening of the toxæmia; elimination still maintained by giving purgatives daily as much as seemed necessary, having in view the number of times the bowels had acted, and also the desirability of freer elimination. The best results were obtained where the bowels had moved five or six times a day for several days, and after that two, three, or four times a day until the temperature became normal. Where the calomel did not produce sufficiently free elimination, I combined with it daily enemata of glycerine. As a rule, when free movement had been once obtained, it was not difficult to secure as many movements per diem as seemed necessary. Calomel is convenient, and may perhaps have some antiseptic effect; but apart from that I see no reason why salines or other purgatives should not be used. I have in every case prescribed and encouraged the regular drinking of large quantities of water, in order to promote elimination, and at the same time act as a diluent. As a germicidal agent, I chose salol alone in all but one case, in which I combined with it naphthol. In the adult case the dose was ten grains every three hours. In all the more recent cases I inquired regarding the odor of the evacuations, and in every case found that the stools lost their offensive character. In three of my earliest cases I unfortunately neglected to secure charts, but have notes briefly as to their course, termination, and general symptoms. In the remaining ten cases I have complete charts and notes.

CASE 1. Miss S., æt. 19. Temperature 104° when first seen; face flushed, pupils widely dilated, thickly-coated tongue, offensive breath, intense headache, stools extremely offensive, epistaxis, slight delirium at night, drowsy during the day. Rash present during first week.

Treatment. Free purgations daily. Salol and beta-naphthol, grs. v. of each every three hours. Water given freely. Headache disappeared shortly. No further delirium. Stools lost offensive odor. Pupils became normal. Temperature normal on tenth day, and continued so. Tongue cleaned shortly after.

CASE 2. Mr. McK., æt. 42. Headache extreme, occipital and frontal; pupils dilated; thickly-coated tongue; temperature 102° when first seen; constipation at first; no rash; anorexia.

Treatment. Free purgations daily. Salol, grs. x., every three hours; fluids freely. Temperature normal on twelfth day, but tongue remained coated for several days; lost weight considerably during the attack.

CASE 3. Mrs. E., æt. 38. Intense headache at first; slight delirium

for few days; rash during the second week; tympanites slight during early days; coated tongue; temperature 103° and slightly above for first few days, after that gradual decline until normal on fourteenth day; stools deodorized; no bad symptoms.

Treatment as in Case 2.

CASE 4. Miss G.B., æt. 19. Headache; coated tongue; rash appeared on fourth day; slight epistaxis at first; bowels constipated; delirium slight at night at commencement; temperature on first day, 103.2°, ranging a few points above 102° during first week, declining gradually until normal on ninth day; no tympanites.

Treatment as in Case 2.

CASE 5. Thomas R., æt. 28. Temperature at first visit, 103.1°, gradual fall until normal on tenth day; violent headache; no delirium; coated tongue throughout; epistaxis on several occasions; no rash; no tympanites; dilated pupils at first; enlargement of spleen; stools deodorized; lost flesh considerably during attack.

Treatment as in preceding case.

CASE 6. George G., æt. 28. Temperature 104.1° at first visit, between 103° and 104° for first week, gradual decline after that until normal on fourteenth day; delirium on first night; headache intense; constipation; rash during first week; nose bled frequently; no tympanites; stools lost offensive character after a few days; spleen enlarged; second slight rise of temperature occurred, lasting for three days, associated with pain and tenderness over the liver; phlebitis in left leg during convalescence.

Treatment as in other cases.

CASE 7. Helen B., æt. 5. Temperature 103.1° at first visit; child was at school three days before; temperature between 102° and 103° for first week, after that declined gradually until normal on evening of seventeenth day; no subsequent rise; headache intense; nose bled several times; tympanites at first, but disappeared; constipation obstinate at first, so that there was difficulty in securing elimination; stools lost offensive character; rash on second week, but scanty.

Treatment as in other cases, and in addition salines.

CASE 8. James M., æt. 26. Temperature in axilla at first visit 101°, continuing between 101° and 102° degrees for first week, then declining gradually until normal on twelfth day; coated tongue; pulpy gums; intense headache at first; disturbed sleep, but no delirium; widely-dilated pupils at commencement; spleen much enlarged and tender; flushed face; anorexia; no tympanites; stools lost offensive odor; rash, a few spots, during end of first week.

Treatment as in other cases, with daily enemata of glycerine to facilitate elimination.

CASE 9. Miss B., æt. 18. Temperature 102° on first visit; headache; coated tongue; rash appeared on fifth day; no tympanites; temperature normal on evening of thirteenth day; no subsequent rise.

CASE 10. George B., æt. 22. Seen first on February 10th. Temperature in axilla, 101.2°; tongue thickly coated; headache intense; pains in back; face deeply flushed and perspiring; epistaxis. Temperature remained between 101° and 102° for three days, then became lower gradually until normal in axilla on sixth day. Tongue still remained coated.

Treatment same.

CASE 11. Seen again on February 26th. Since February 15th had been apparently quite well; was up and about until two or three days previous to visit, when the headache and fever returned. At first visit the temperature was 103°; second day, 103°; third day, 103.1°; fourth day, 103.1°, and on fifth day 104°; from that time each day registered lower until the normal was reached on the tenth day. No subsequent rise. Tongue remained thickly coated throughout. A perfectly typical and abundant rash appeared on the ninth day, and was present when temperature became normal. I counted fifteen spots on abdomen alone.

Symptoms. Intense headache; constipation; dilated pupils; disturbed sleep, but no delirium; frequent epistaxis; spleen enlarged; no tympanites; stools lost offensive odor.

Treatment as in other cases.

Remarks. In this case purgation was thoroughly and satisfactorily carried out, the bowels moving every day between four and seven times. That the first attack was of the same nature as the second is quite clear to my mind, sufficient infection remaining to give rise, after a time, to this recrudescence.

CASE 12. Mr. S., æt. 29. Chill; intense headache and muscular pains; face flushed and pupils dilated; coated tongue throughout; epistaxis; foul breath. Temperature became normal at end of second week. Lost flesh rapidly during the attack. No tympanites; no delirium, but leep much disturbed by wild dreams. A few spots, not very typical, on abdomen.

Treatment as in other cases.

CASE 13. Alfred D., æt. 5 years. Temperature 104.1° when first seen; very drowsy and almost comatose. Urine had to be drawn by catheter for several days. Pupils were widely dilated and face deeply flushed. Temperature normal on seventh day. Tongue cleaned several days after.

Treatment as in other cases.

Analysis of cases. Average duration of fever, 11 days. Hemorrhage, none; perforation, none. Tympanites in no case developed while patient

was under treatment; and, where present, quickly disappeared. Excessive diarrhœa in no case. Delirium present to slight degree in four cases, but quickly disappeared. Stools deodorized in every case. Rash present in nine cases.

For four of these cases I am indebted to medical friends, who were kind enough to put their patients under the plan of treatment I had adopted.

TUBERCULAR CYST OF THE PERITONEUM SIMULATING HYDATID CYST OF THE LIVER.

By A. McPhedran, M.B.,

Associate Professor of Medicine and Clinical Medicine, University of Toronto, etc.

JOHN H., aged 30. Of good personal and family history, except that his father is said to have died of chronic bronchitis at the age of 63. About February 1st, 1892, he was suddenly attacked, while at work, with symptoms of acute catarrhal gastritis. He had nausea, continuous pain in the stomach, griping pains in the bowels, belching of gas. Vomiting soon followed, and recurred sometimes several times daily; at other times not more than once a week. There was loss of appetite, bowels irregular, constipation alternating with obstinate diarrhœa, with pale, often frothy, stools. Within a day or two of the commencement of this attack, he first noticed fullness of the lower part of the chest.

These symptoms continued, with varying intensity, during February and March, during which time he was confined to his room, and most of the time to his bed. By the middle of April he felt so far recovered as to be able to return to his farm work, and for a couple of weeks improved, gaining in weight somewhat. Then the symptoms returned with greater severity. The pain in the epigastrium was more severe, with considerable tenderness. The vomit sometimes contained brown, shreddy masses.

Status præsens. He entered the Toronto General Hospital, July 5th, 1892. There was slight anæmia, but no emaciation. For three weeks previously there had been considerable œdema of the lower extremities and some ascites, but no œdema of face. He lay with greatest ease on either side. The lower part of the thorax and upper part of the abdomen were greatly enlarged in all diameters, the enlargement of the thorax being most marked on the left side. Tenderness over epigastric and right hypochondriac regions. Slight degree of fluctuation could be obtained two inches above and a little to the right of the umbilicus; occasionally a thrill could be made out in this area (see fiig. 1).

Heart displaced upward, as indicated in figure. Considerable flatulence. Urine, normal in quantity and quality; specific gravity, 1020. A needle was passed into the epigastrium and some fluid easily withdrawn. It was opalescent, of pale straw color; specific gravity, 100; alkaline; contained no bile; chlorides abundant; albumen about one-fifth by volume after standing for twenty-four hours. There were a good many red blood corpuscles present. No hooklets could be found. The needle was also introduced in the left fifth intercostal space in the anterior axillary line, and similar fluid obtained.

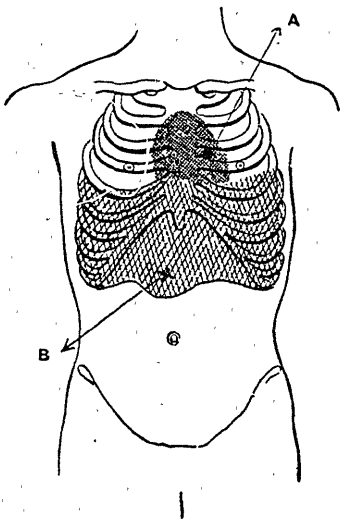

FIG. I.
A. Cardiac impulse. *B*. Thrill.

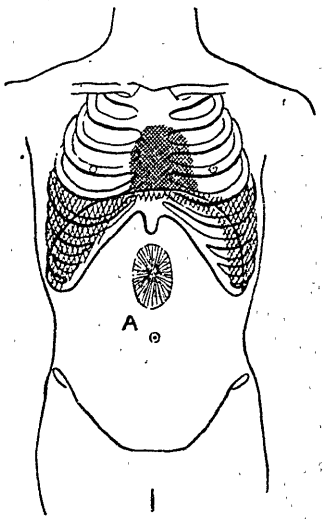

FIG. II.
A. Funnel-shaped depression.

July 15th, ten days after entering the hospital, the œdema of the legs had disappeared.

July 22nd. A median incision two inches long, beginning one inch below the ensiform cartilage, was made by my colleague, Dr. I. H. Cameron, exposing the pyloric end of the stomach lying in and adherent to the liver. Projecting slightly below the border of the liver was found a tense fluctuating mass. This was punctured, and a large amount of fluid evacuated. The wall of the cyst was thick and dense, and presented in the part exposed many small nodules, probably due to tuberculous deposit, the whole cystic formation doubtless resulting from tubercular peritonitis. The margins of the incision in the cyst were stitched to the abdominal incision and a drainage tube introduced.

Improvement was uninterrupted, and the drainage tube was forced out by August 8th. By this time the epigastrium was much retracted, forming

a funnel-shaped depression (see fig. 2), with the opening at the bottom. Passing above and around to the right of this depression were the pyloric end of the stomach and duodenum, obliterating hepatic dullness in this area.

Remarks. Encysted collections of fluid in the abdomen may consist of (1) simple serous cysts; (2) localized dropsy, requiring for their production (*a*) previous inflammation to produce the conditions necessary to form a sac wall, and (*b*) a lesion, causing dropsy, as disease of the heart, liver, or kidneys; (3) hydatid cysts; and (4) peritonitis, simple, tubercular, or cancerous.

In the present case, the first and second conditions need not be discussed, as efficient causes for the existing phenomena could only be produced by either the third or fourth conditions, and it was between these two that the diagnosis had to be made. The general appearance of the patient, he did not appear to be suffering from such an extensive lesion of the peritoneum; the gradual development of the cyst, for it evidently existed some time before February; the absence of pyrexia; the absence of a previous history of disease of the peritoneum; the prominence of the pressure symptoms; the high tension of the cyst, with the fremitus, however, only occasionally obtained; and the peculiar outline presented by the cyst, all indicated hydatid cyst of the liver.

The character of the fluid, however, contraindicated hydatid, in that it contained too much albumen—one-fifth, by volume—as well as a number of red blood corpuscles. Its specific gravity (1009) and color might occur in either hydatid or ascitic fluid of any origin. The presence of blood corpuscles strongly indicated carcinomatous or tubercular disease, but may occur in other conditions. The symptoms presented at the beginning of his illness in February not infrequently occur with the development of tubercular peritonitis.

THE TREATMENT OF VARICOSE VEINS OF THE LOWER EXTREMITIES.*

By L. M. Sweetnam, M.B.,

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ALTHOUGH my subject is as given, "The Treatment of Varicose Veins of the Lower Extremities," I do not propose, in this short paper, to attempt to treat the subject exhaustively, still less to criticize published opinions upon the advantages and disadvantages of the different forms of treatment recommended for this condition; but to give a gen-

*Read before the Toronto Medical Society.

eral, brief account of the whole subject, and to enlarge, perhaps, upon some points possessing special interest and importance.

I think that you will allow me the statement that no disability, certainly no surgical disability, is more frequently met with; that it is a condition to which we, as practitioners, give too little attention in its early stages, when it is frequently amenable to the milder forms of treatment, until pathological changes have taken place, rendering the individual's life miserable, and all but useless, by reason of pain and weakness. The causes of this condition are so intimately associated with its treatment that I feel justified in enumerating them here. It may be said to result from undue pressure within the veins, or from impaired resistance of their walls. The former condition will be met with in (1) cardiac disease, especially those forms affecting the right chambers; (2) obliteration of a large vein; (3) hepatic disease; (4) pregnancy and amenorrhœa; (5) local pressure by fæcal accumulations or tumors; (6) pressure of a long column of blood, as in the case of the internal saphenous, which is placed too superficially to receive any muscular or fascial support; (7) occupations like those of carrying-porters and truck-drivers, which involve constant and severe strain upon the crural muscles, with the sudden driving of a large amount of blood from the muscular and intra-muscular veins into the superficial ones; (8) walking heavily upon the heel. Here we have the centrifugal impetus acquired by the blood during the early portion of the step, when the heel is brought abruptly to the ground, thrown upon the valves—if present—and from them upon the vein walls. This force is very considerable, especially in the saphenous; and frequently repeated, in the presence of any lack in tone of the vessel walls, is very apt to be followed by dilatation. Any cause, then, which throws upon the muscular wall of the vein an unnatural strain for an unnatural time leads to hypertrophy, or if the nutrition be at fault to thinning at some points, and hypertrophy at others.

The second condition, that of impaired resistance of the vein walls, is met with in enfeebled constitutions, often apparently hereditary, and seen in a large proportion of the cases applying for treatment, and less frequently in the degeneracy of tissue incident to advancing age.

Dr. W. H. Bennett, in his admirable monograph upon this subject, says: "Personally, the more I see of this affection, the more I incline to the belief that a large proportion of these varicosities originate in defects in the venous apparatus, which, in some patients, are distinctly hereditary."

Symptoms. Varicose, permanently dilated veins, of moderate size, commonly give rise to but little discomfort, provided the nutrition be good and the circulation active; but, in the presence of age, ill health, or even fatigue, the great weight of this high column of blood, un-

broken by valves, brings about serious changes, chronic congestion, with consequent thickening and hypertrophy of the connective tissue; pigmentation, from escape of red corpuscles from the veins, and failure of nutrition of the tissues generally; in which condition abrasions and wounds heal slowly; ulcers form, which persistently resist ordinary treatment, unless absolute rest be enjoined; and, finally, the skin becomes eczematous and boggy, not, it is true, the direct result of the varicose veins, but of the impaired circulation which they have brought about.

Treatment. When the dilatation is traceable to a pathological change in any of the viscera, the offending organ should, if possible, be set right, with the hope that the vein may recover itself. Constipation should be corrected, a torpid or congested liver should be relieved, a flabby or dilated heart should be toned up, and peritoneal dropsy may require the use of diuretics, purgatives, or the trocar. In the presence of pregnancy an abdominal belt should be worn, and the day broken by a noonday sleep. Suppressed or deficient menstruation will call for special treatment. In those early cases where pain is severe, with or without œdema, rest in the recumbent position, with perhaps elevation of the limb, is a source of great comfort. This, in some cases, may be repeated for, say, half an hour three or four times during the day.

The form of treatment adopted in a severe case will depend upon the object in view. If this be the relief of symptoms, then palliative measures will be adopted; on the other hand, if permanent relief be sought for, one or other of the radical cures will be done.

Bandages. For the purpose of general support to a varicose limb, nothing surpasses a cotton net or flannel bandage cut upon the bias. An elastic stocking is the most deceiving of all deceivers. These two pieces of flannel, each one yard long, were cut from the same web, yet when placed upon the stretch one becomes eight inches longer than the other. This represents the difference in elasticity between that cut upon the straight and that cut upon the bias. In using a bandage of any kind, it should not be applied too tightly at first; it may require readjusting several times during the day, and should always exert most pressure upon the foot and ankle. The difficulty of adapting a bandage or stocking that can be worn with comfort and satisfaction is much greater when the vessel is situated above the knee than when it is situated below that joint; but fortunately cases of this kind, if not occurring in persons of too advanced an age, may usually be absolutely relieved by one of several operations to be referred to.

Stockings. Another, and a serviceable support for those who are of the working class, and who prefer to wear a support rather than submit to operative treatment, is a stocking made of stout linen, laced down the

front; the two edges are provided with eyelets, and one edge with a loose flap which, passing behind the lacing, protects the skin from what might be a source of considerable irritation. If the varicosity extend above the knee, a small piece of the linen is cut out of that portion of the stocking which would correspond to the anterior portion of that joint. The thigh piece of this stocking may take its support from an abdominal belt or a waist worn for the purpose. The front should be closed with three or four different pairs of laces, so that the pressure at any given point may be altered without interfering with the remainder of the stocking.

A thigh support of real value is made of stout merino, in the form of tightly-fitting drawers, attached above to an abdominal belt.

Strapping. Where varicosity is confined to a small portion of a single vein, or to a circumscribed bunch, strips of plaster applied across the vein, or at right angles to the greater diameter of the bunch, removed at night and reapplied each morning, prevent distention and relieve pain.

Exercise. In the absence of eczema, ulcers, extreme dilatation with threatened rupture, moderate exercise, if varied in character, is helpful. To vary the exercise, I should alternate walking with riding, walking upon the level with walking up and down hill.

Massage. Upward massage to practise each night upon retiring is to be encouraged and persisted in. Many cases exhibiting œdema are much relieved by it, as are those in which pain is so severe as to preclude even moderate exercise.

Where extreme tenderness or a recent thrombes exist, it is needless to say that massage is contraindicated.

The radical treatment aims at the obliteration, or removal, of the altered vein or veins. For this purpose caustics, injections, the ligature, and, lastly, extirpation or excision, have been resorted to.

Before the days of Listerism, Vienna paste was applied over the dilated vein at points three or four inches distant, and at the end of fifteen minutes washed off with vinegar. In this way it was sought to render the opposite sides of the vein adherent and secure obliteration.

The injection of minim doses of pure carbolic acid into the vein, its upper end having been secured by a moderately tight bandage, and of solutions of iron or of alcohol and ergot, alongside the vein have had their advocates.

The treatment by ligature has been one of the most popular. It is usually employed in one of three ways. By some it is introduced through an open wound, carried round the vessel by means of an aneurism needle, tied, the ends cut short and dropped, a single stitch closing the opening. The operation becomes more secure if the vein be tied at two points in each incision and divided between. In bad cases upwards of thirty such inci-

sions have been called for in a single leg. Others, again, in using the ligature, pass a flat needle beneath the vein while it is pinched up between the finger and thumb, then twist a figure-of-eight stitch over the ends of the needle, protecting the skin beneath by means of a little absorbent cotton or surgeon's lint. The needles should not remain in position longer than one week, and if inflammation result they are withdrawn earlier. Failure is not infrequent, and there is always the danger of transfixing a vein.

The third method of applying the ligatures is credited to Dr. Charles Phelps, of New York. The ligature material used is catgut. The needle commonly used, the Keyes straight varicocele needle, is so constructed that the eye, situated near the puncturing end, is opened and closed by means of a slide. The catgut should be small enough to allow the knot to pass through the opening in the skin made by the needle, although there is no objection to leaving the knot outside.

The ligatures are introduced as follows: The selected vein with its surrounding skin is picked up between the thumb and forefinger, and the needle (armed with a ligature) introduced through the skin on one side. The eye of the needle is then opened and the ligature detached; the eye is closed again and the needle withdrawn. We have now a ligature passing from the point of entrance to the point of exit under the vein. The needle is now reintroduced (unarmed) into the same opening produced by the former puncture, and made to pass above the vein, that is, between the vein and integument, making exit at the point of exit produced by the first puncture. The eye is now opened, the ligature introduced into it, the eye closed, the needle withdrawn. We now have the ligature around the vein, and both ends making exit from the same opening. All that remains to be done is to tie with a friction knot—one made by passing the end twice round the loop instead of once, and not liable to slip.

Trendelenburg, of Bonn, has recently urged ligature of the trunk of the saphenous vein for the purpose of reducing varices of the leg, and healing varicose ulcers; but past experiences have made us skeptical of the permanent value of limited excision and partial operations generally.

Excision. Bennett, speaking of excision, says: "All the ends obtainable by the two previous operations (the application at one or more points of a single ligature, and the division of a vein or veins between two ligatures) are better and more completely effected by this proceeding, which is, of course, also especially adapted for the complete cure of local varix of any kind, single or multiple cysts, solid tumors, the results of ancient strombi, phleboliths, etc. At the Congress of German Surgeons in 1884, Schede, in discussing Bœnnicken's paper upon this

subject, strongly favored this operation; in 1886 Konig reported that he had given up ligature and limited excision, as better results were obtained by more extensive operation; and since these dates the operation has continued to increase in popularity, both in England and America. I, therefore, make no apology in urging excision as the best treatment in well-selected cases calling for so-called radical treatment.

The operation. The day before the operation the patient, placed in a sunlit room, is asked to stand upon a chair or table, and the saphenous vein, with all its enlarged branches, is traced throughout its entire course with a camel-hair brush, moistened with a 20-gr. solution of nitrate of silver in spts. eth. nit. A few minutes' exposure to the sun will so fix it that any washing that is done preparatory to the operation will not render it much less distinct. Only those who have removed large pieces of dilated vein will appreciate the amount of comfort and the saving of time which comes through the adoption of this simple precaution. The vessel may in this way be exposed throughout its entire course in less than five minutes with a degree of accuracy and ease not possible in any other way.

That the strictest precautions as to surgical cleanliness must be observed goes without saying.

The limb is cleansed with ether and soap, and for some time before the operation packed in a wet carbolic dressing. The patient being etherized, the limb is rendered bloodless, and a tourniquet applied above the upper limit of the incision; the limb is again washed, a short incision is made some little distance above the length to be removed, and the vein divided here between two ligatures. In this way I have protected the proximal end of the vein against any possible infection which might find its way into the larger wound. So far, this precaution has never been necessary, none of the cases having been infected. A rapid incision is now carried over the entire length of the vein to be excised and down to it.

The skin flaps being well turned back to enable one to follow the altered branches through the fascia and into the muscle, if needs be, are fastened with a few stitches, and the piece of vein to be removed is divided at its upper end. The dissection proper is then commenced, and this is the tedious part of the operation. The major portion of the work may be done with the back of the knife, or a fine periosteal elevator, the branches encountered traced out beyond all appearance of disease, and tied off with strings or catgut (preferably that boiled in alcohol under pressure). Unless considerable care be exercised many of the smaller branches will be torn, and some troublesome bleeding may result. That I might feel satisfied that my catgut was absolutely safe, I had Tiemanns

make me this metallic box with screw cap. The catgut is placed in the box, covered with absolute alcohol, and boiled for half an hour on each of three successive days; the method is safe, and after sterilization in this way we need have no misgivings as to the cleanliness, at all events, of his gut. The dissection having been completed and the vein removed, the tourniquet is slightly and cautiously relaxed and the bleeding points secured. This is best done by tortion with fine pressure forceps which include little more than the vessel in their bite, and are therefore less likely to produce destruction of the already somewhat devitalized tissue than one of a coarser pattern. After flushing out the wound with sterilized water, I have usually dropped into it a few drops of pure chloroform for the purpose of sterilizing, but mainly to control any general oozing, for chloroform applied in this way has a decidedly styptic action.

Before withdrawing the tourniquet, I have put in a number of deep sutures, which pass under the wound and do not appear in it. These are not tied until the wound is being closed, but would effectively control hemorrhage from any branches which might have escaped the catgut ligature, and, drawn moderately tight, give the wound good support while healing. The superficial sutures are of stearin, sterilized silk, interrupted, and placed at the greatest distance compatible with perfect coaptation. The wound having been covered with a moist boracic-acid dressing, protected by gutta-percha tissue, is placed upon a pillow, the sutures removed upon the seventh day, and the patient kept in bed for two weeks longer, and compelled to wear a flannel bandage for at least six months, to be removed upon the slightest indication of varicosity in any of the remaining vessels.

ASCITES IN CONNECTION WITH GYNECOLOGY.*

An abstract of Prof. Gusserow's article in *Arch. fur. Gynæcologie.*

By Hunter Robb, M.D.,

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In the *Arch. für. Gynæcologie* for 1892, Professor A. Gusserow, of Berlin, has an interesting article on "Ascites in connection with Gynecology," of which the following is an abstract.

A high grade of ascites has often been observed occurring in connection with the affections of the genital apparatus or of the peritoneum, which seem to occur by preference in women. In these cases, at first, even the skilled diagnostician cannot say anything more than that he has a general ascites (non-encapsulated). There is a lack of the symptoms which occur

*Read before the Gynecological and Obstetrical Society of Baltimore, Md.

in ordinary ascites; there is no ascites in other parts; for instance, of the legs, the abdominal wall, or of the outer genitals. A patient often comes to us like a skeleton, with the exception of a very prominent abdomen, which makes us think at once of an abdominal tumor, in the modern sense of the words; *i.e.*, a new growth. A special characteristic of this kind of case is the absence of all the ordinary factors, one or more of which are so often found to have given rise to ascites. So then, in the first place, a careful examination must be made for disease of (1) the circulatory apparatus; (2) the liver; (3) the kidneys; and only those cases of ascites in which such etiological factors can be positively excluded come, properly speaking, into the domain of gynecology; and it is only these, and none others, that Gusserow is discussing. Most gynecologists are now agreed upon the best method of handling such cases. Unfortunately, the ordinary practitioner is too apt to follow the older method, a circumstance which sometimes proves very unfortunate for the patient. He still clings to the idea that an attempt should be made to ascertain the cause of the ascites by means of a puncture: or, what is worse, he is apt to make the treatment consist in further punctures, and to continue these until the death of the patient. Puncture is, in my opinion, in every way inadvisable. It is true that we, in common with other gynecologists, for many years taught that puncture was always necessary for the diagnosis for an abdominal tumor. This idea they have now given up, and we consider it quite as absurd to make a puncture for diagnosis in the cases of general or "free" ascites. This new doctrine I have taught for many years, and the same holds good for tapping to take away the greater part of the fluid. It used to be the custom to make a puncture with a Pravaz syringe, and draw off a little fluid, have it examined chemically and microscopically, in order to make a diagnosis of the kind of ascites and of its probable origin. Although much work has been done on the subject, there are many cases, and especially nearly all of these cases of "general ascites" which we are discussing now, where such an examination will give us no information at all. Better than this is tapping for the removal of the greater part of the fluid, since we thus get a better chance for palpation of the abdominal and pelvic organs, and may possibly be able to detect the cause which was concealed by the amount of the fluid. This "chance" of making a diagnosis frequently led to the adoption of this treatment, which, as we said, was often not the best for the patient. The reasons against this method are (1) the uncertainty of being able to make a diagnosis, even when the fluid is drawn off; (2) the faint chance, even with the best asepsis at our command, of setting up a septic process. (This latter danger has now, it is true, been reduced to a minimum, but we have nevertheless seen cases of erysipelas and of septic peritonitis from tapping.) (3) The liability of injuring vessels, and of conse-

quent internal bleeding; (4) the impossibility of drawing off all the fluid by tapping, and the almost certain return of the fluid, which perhaps will necessitate tapping again and again.

I have given up both the puncture and tapping, and prefer to make an incision about 6 cm. long, then empty the abdomen of the fluid, and, inserting the finger, find out what is the local cause. One is then at once able to decide for or against an immediate or a future operation. If a radical operation is not to be done, we have at any rate drawn off all the fluid. The cases are divided into groups. To the first group belong the cases of "general" ascites as a consequence of so-called "tuberculous" peritonitis. This form appears mostly in young people. No lesion in the heart, kidneys, or liver is demonstrable, and no signs of tuberculosis are anywhere found. On laparotomy one finds numerous nodules of a gray-reddish color, both on the visceral and parietal surface of the peritoneum. Some of these cases, as it seems to us, are not cases of tuberculous peritonitis in the modern acceptation of the term. We would prefer to call them cases of "peritonitis nodosa." The first case given was observed by me twenty years ago, before the tubercle bacillus was discovered. The patient was quite young, twenty years of age; no signs of phthisis. There was a high grade of ascites. Patient had been tapped several times. Laparotomy performed, the fluid evacuated, and the before-mentioned nodules were found. Seeing the nodules, I made a diagnosis of tuberculosis and gave a bad prognosis; and the patient—got well. In the second case laparotomy was performed, the fluid was evacuated, and one of the nodules cut out. The central portion of the nodules was caseous, but no giant cells were found. (Tubercle bacilli had not been discovered, and were not looked for.) The patient recovered. The third case, which was operated upon in 1892, was somewhat similar. The microscopical examination showed small celled proliferation, with a rich blood supply No giant cells, no tubercle bacilli. In any of these three cases tapping would have been of no avail, for it would not have been possible to make a diagnosis by palpation except by exclusion after the fluid was drawn off, and the diagnosis could only be established by opening the abdomen and cutting out one of the nodules for examination.

The second group consists of cases where the ascites was due to papilloma of the ovaries.

Papilloma of the ovary, or superficial papilloma of the ovary, consists of an abundant growth of connective tissue villi, which comes from the surface of the ovary, while the ovarian stroma itself is either found to be thickened or is nearly normal. These cases are not always distinguished from those rare cases in which a papilloma has burst, and a part of it has grown free in the abdominal cavity. The characteristics of superficial

papilloma of the ovary are (1) both ovaries are generally involved; (2) they cause a high grade of ascites, which is liable to return again after tapping; (3) they are generally too small to be palpated, even after tapping. The first observation of this kind was published by myself and Eberth in *Virchow's Archiv.*, No. 43, 1868. Patient, 34 years of age, had a high grade of ascites for a year and a quarter. Had been tapped several times in Billroth's clinic, among others. No reason for ascites discovered. Umbilical hernia developed and burst, and the patient increased the opening herself and let off the fluid. Finally, the hernia became very large. A convolution of intestine had come out through the hernia, and when the patient was seen most of the small intestine lay outside the abdomen and showed signs of discoloration. Operation for hernia. Rupture of gangrenous portion of intestine. Death. *Post mortem* showed papilloma of the ovary. (He also adds other cases.) These cases of rare diseases of the ovary ought to convince us that where we have ascites from some unknown cause in the abdomen, we ought not to limit ourselves to puncture; in fact, we ought not to puncture at all. In none of them was it possible to diagnosticate the nature of the cause till the abdomen had been opened. In one of them where puncture had been made before, and bloody, serous fluid evacuated, we might have been led to think of carcinoma of the peritoneum, and been unwilling to operate. This admixture of blood, as a matter of fact, was a result of the puncture. In two of these cases death unfortunately followed the operation, but this must be attributed to the exhaustion of the patient by the frequent tappings. In another case death was caused by septic peritonitis. Otherwise we would feel sure that the patient would have been cured, since we have no instance of recurrent papilloma of the ovary where it has once been thoroughly excised.

To the third group belong those far more common cases of ascites due to carcinoma of the ovaries and the peritoneum. Here, it might be asked, "Is not incision unnecessary? Here we can feel even a nodular tumor after puncture. Is it not sufficient to puncture in order to make the diagnosis?" However, again, we should employ incision. First, because we can never be otherwise sure that the growth is cancerous. Secondly, because only by this means can we decide whether (if there is carcinoma) the ovary or uterus ought to be removed, as it is the rule to extirpate cancerous ovaries unless the peritoneum is involved; and every carcinoma must be removed if it is in healthy tissue. If there is carcinoma of the ovaries, then by incision we can tell whether or not the peritoneum is affected, and that can only be discovered by laparotomy. It will be objected that in malignant disease laparotomy has sometimes hastened death. This by no means always occurs, and against it we can put, first, the certainity of diagnosis; secondly, if the tumor is benign, a timely

operation and recovery; and to these we may add that, where the tumor is malignant, a laparotomy sometimes hinders its progress, and even without further operation life is prolonged.

These cases fall naturally into three subdivisions: First, those in which the malignant growth could be removed (with ovaries). It must be remembered that we are not talking now of operations for malignant growths in the abdomen in general, but only of those in which general ascites was the characteristic symptom. Out of three cases two recovered completely; the third died later of multiple sarcomata. In the second subdivision come those cases in which the malignant growths could not be entirely removed. The first case has the following history: M.G., aged 20, admitted Aug. 18, 1891; primipara. Three months before entrance she had a great deal of pain in the abdomen, which obliged her to stay in bed. Was in bed four weeks. Before entrance she noticed a swelling, with no pain, but shortness of breath. The abdomen measured 110 cm.; general ascites. No tumor felt by palpation or vaginal examination. Laparotomy, Aug. 18; four to six litres of ascitic fluid removed. Tumor size of first, on right side of uterus, in layers of broad ligament. Mass adherent. Removed with difficulty, because the tumor was a friable, medullary material. A great deal of hemorrhage followed. Left ovary healthy. Diagnosis, spindle and round cell sarcoma. Patient recovered from the operation, but died of peritonitis without ascites, and of marasmus, after seven months. Autopsy, general sarcoma of peritoneum, omentum, retro-peritoneal lymph glands, retro-sternal glands. The next case, one of carcinoma not connected with the genital apparatus, but adherent to the intestines. Removed. Patient left hospital completely well. She was lost sight of. Of the five cases in this category, in all of which a portion of the growth was left in the abdomen, three died, not in consequence of the operation, but on account of the rapid development of the malignant growths. Two got well (one a woman of 75). What became of these cases ultimately is not known; anyway, their lives were prolonged by laparotomy.

To the last subdivision belong those cases of ascites where no attempt was made to remove the tumor, but where the abdominal section was made for the sole purpose of evacuating the fluid; of five cases, two died and three got better for the time being. These cases show that for drawing off the fluid laparotomy is often better than puncture. The fluid can be so much better removed in this way, a diagnosis can be made, and we know with absolute certainty whether an operation is indicated or not.

Lastly, we must mention cases of general ascites caused by benign disease of the genital apparatus. The first case was a woman, aged 57, nine children; came into the clinic August 4th, 1890. Menopause one year ago; since that time had remarked a swelling in the abdomen,

which caused her no particular inconvenience; for the last three weeks rapid increase in swelling, causing a feeling of tension, pain in abdomen and back, with pain on micturition, and prolapsus vaginæ. (Abdomen 103 cm., from ascites.) No tumor felt in abdomen; nothing discovered in the other organs. Laparotomy, Aug. 6th, 1890. Color of fluid yellow; hard tumor fastened to the left corner of uterus, easily separated from it. Right kidney a little out of place. The uterus was attached to abdominal wound. Tumor proved to be fibroma *ovarii sinistri.* Recovery. Vagina replaced. Even operation did not show the reason for so much ascites.

By tapping, of course, we could not have discovered the real nature of the tumor causing the disease. We might, indeed, have felt the tumor, but could not have told about its malignant or non-malignant character. In another case belonging to this category, we could not have had any idea of the nature of the disease by tapping. By laparotomy we were able to see plain indications for removal of the tumor, and were consequently able to cure the patient.

Professor Gusserow, in this article, expresses, we think, the views of most of those of us who have had much experience in abdominal surgery. With our present technique, even were the advantages to be gained by such a procedure far less than they really are, we need not hesitate to open the abdomen instead of making a puncture. When the general practitioner meets with a case of ascites where all implication of the circulatory apparatus, the liver, and kidney have once for all been definitely excluded, it would certainly be well for him to call in the specialist before adopting the "puncture" method. Our experience bears out the futility of attempting to arrive at a certain diagnosis in every case by examination (chemical and microscopical) of the fluid which has been aspirated; the only certain way is to use the hand or eye, or, if possible, both. Again, we have seen more than one case which has come to autopsy where the patient had died after numerous aspirations, and where the condition of things had led us to believe that a timely operation might have at least much prolonged the patient's life, even if the disease could not have been thoroughly eradicated. In these cases it seemed that valuable opportunities had been lost; and since an abdominal section not only gives the patient the best chance for complete recovery, but when employed as a palliative measure is more efficient than frequent tappings, it is in almost every case the better method. With respect to the "Peritonitis Nodosa," of which Gusserow speaks, it does not seem clear to us that these were not instances of peritoneal tuberculosis; and if this were the case, the success which attended the operations, and which we have seen confirmed in our work, would only go still further in proving his proposition.

Finally, in these days when in both medicine and surgery we are all

striving as much as possible to avoid working in the dark, and we wish to treat our patients for the disease they really have and not for a hundred and one others which they might possibly be suffering from, the advantages of an absolute diagnosis can hardly be overrated.

Selected Articles.

THE TONIC TREATMENT OF INDIGESTION.

CLINICAL LECTURE DELIVERED AT THE POLYCLINIC HOSPITAL

By Thomas J. Mays, M.D.,

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IT is well known that indigestion is one of the most prominent characteristics of the many morbid conditions which are met in daily life. Not only is the inability to eat one of the first symptoms which mark the beginning of disease, but it is frequently conspicuous throughout its course; hence, on account of the importance and the widespread nature of this disorder, I have been led to consider its treatment this evening with drugs which are principally of vegetable origin, and which exert a tonic or stimulant influence.

Any therapeutic agent which has the power of invigorating the bodily functions may be called a tonic. Common custom has, however, limited this title to that class of drugs which facilitate the processes of digestion and absorption in the alimentary canal. The list of drugs which possess this action is large, and comprises the bitters, aromatics, some alkaloids, and some inorganic substances.

Practical experience has taught us that the administration of these agents is followed by increased appetite. There is much reason to believe that in accomplishing this they act in a mechanical way; *i.e.*, by coming in contact with the nerves and muscles of the mucous coat of the stomach and intestines they excite into renewed activity the normal movements and secretions of these organs. This view of their action is well borne out by the observations which have been made on the stomachs of persons or of animals in whom existed gastric fistulæ. It has been observed that when the stomach contains no food and is at rest, its mucous membrane is pale; but when slightly stimulated, as by rubbing it with a feather or some other soft object, it becomes redder and the gastric juice is secreted in copious

quantities. More intense irritation checks the secretion of gastric juice, the membrane becomes pale, and nausea and vomiting may supervene. These drugs, then, in ordinary doses, possess the requisite power to call forth a normal secretion of the digestive juices, while at the same time we know that they also influence the nerves and muscles which supply the digestive organs, and hence increase the movements of the latter.

By bearing in mind the fact that slight irritation of the gastric mucous membrane produces an abundance of gastric secretion, and that a stronger irritation will stop this flow, we have a probable explanation as to why some of our most noted authorities on therapeutics (Buchheim and others) are led to believe that our much-vaunted tonics not only fail to improve digestion, but really interfere with it. It is very plain from what has been said that large doses of these agents act like strong irritants when applied to the gastric walls, and, indeed, we have this confirmed in the clinical experience that in large quantities they produce nausea and vomiting. The authorities who do not believe in the tonic action of these substances also hold that because they counteract fermentative changes they also necessarily interfere with gastric and intestinal digestion. That the bitter substances possess this anti-zymotic power is well proven; but when we remember that they are administered in small doses, well diluted, this influence can hardly manifest itself. It is true that in the case of quinine, except when given in very small doses, this anti-ferment power must always be borne in mind, and should forbid the giving of this alkaloid too close to a meal.

Besides the power of increasing gastric and intestinal digestion and motion, these agents possess another very important property, and that is a stimulation of absorption of the digestive products by the blood vessels. Little was indeed known of the intricate workings of absorption until recently, beyond the fact that in a general way the food products were believed to be absorbed by the blood vessels and by the lacteals of the stomach and of the intestines. That the albuminous food is changed into peptone has been demonstrated clearly enough, but how the latter gains entrance into the blood has been enveloped in a great deal of mystery. That peptone does not enter the blood in a free state is plain from the fact that it is not found as such in this fluid, and that when it is introduced into the circulation artificially it acts as a poison, and is at once excreted by the kidneys. The case is different, however, when peptone is absorbed from the alimentary tract; for Professor Hofmeister has shown (*Archiv für Experimentelle Pathologie u. Pharmacologie*, Band xix., s. 1), from a very elaborate series of experiments, that in the adenoid tissue or lymphatic glands of the mucous membrane of the alimentary canal there is an active proliferation of white blood cells (leucocytes) during digestion; that these

cells imbibe and incorporate peptone; and that in this way most of the latter is taken up and distributed by the circulation throughout the body. In contradistinction to the office of the red blood corpuscles, which is to absorb and transport oxygen, he demonstrates that that of the white blood corpuscles is to imbibe and appropriate peptone. In the light of Professor Hofmeister's researches, it also becomes clear why an increased multiplication of white blood cells takes place during digestion, a fact which had been observed by Moleshoot nearly forty years ago. Whether the tissues take up the nutritive material from the white blood cells as peptone, or whether peptone is changed into some other form of albumen before it reaches its destination, is a question with which we do not need to concern ourselves at present.

That which is of the greatest interest to us is to know what influence the bitter tonics and aromatics have on the process of gastric and intestinal absorption. This influence has been studied by Dr. Pohl (see *Archie für Experimentelle Pathologie u. Pharmacologie*, Band xxv., s. 31), an assistant of Professor Hofmeister, who counted the number of white blood corpuscles in the blood of dogs before and after foods and certain drugs had been administered. He found an increase in their white blood cells averaging more than one hundred per cent. when albuminous food had been ingested. When carbohydrates, fats, salts, water, and other non-albuminous foods were given, no increase in the number of white blood cells was observed.

After he had firmly established the fact that the number of white blood cells was augmented by albuminous food, he pushed the investigation further and tested a large number of medicinal substances in relation to the same process, among which were inorganic salts, volatile medicaments belonging to the fatty and aromatic series, bitters, and alkaloids. He introduced these substances into the stomachs of dogs who had been hungering for twenty-four and forty-eight hours, and enumerated the white blood cells before and after they were given. His interesting results show that hydrochloric acid, sodium bicarbonate, sodium sulphate, magnesium sulphate, sodium arseniate, lead acetate, copper sulphate, calomel, alcohol, caffeine, and quinine were inert in this respect; but that bismuth subnitrate, iron chloride, acetic ether, mustard, pepper, strychnine, vanillin, the oils of fennel, cloves, peppermint, aniseed, cinnamon, turpentine, tincture of myrrh, musk, camphor, wormwood, quassin, gentian, and centaury showed a remarkable power to increase the number of white blood cells. Among the most active of these agents were strychnine, centaury, fennel oil, gentian, quassin, mustard, aniseed, clove oil, myrrh, and turpentine—ranking in the order in which they are named.

In order to impress on you the importance and scientific value of this

investigation, I shall reproduce a few of his recorded experiments; and by so doing I shall also be enabled to demonstrate to you the comparative worth of some of the different substances in their influence on white blood-cell formation.

Beef.	
Time.	Number of White Blood Cells in Cubic Millimetre.
9.00	8,689
	100 g. beef.
10.00	16,685
11.00	17,296
5.00	7,256
Max Increase	99 per cent.

Beef.	
Time.	Number of White Blood Cells in Cubic Millimetre.
9.45	5,929
	100 g. beef.
10.45	14,598
3.00	14,332
6.00	10,337
Max. Increase	146 per cent.

Ethyl Alcohol.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.
9.00	12,041
9.25	12.5 ccm. alcohol.
10.10	16,244
11.00	13,783
11.25	14,988
4.00	13,575
4.05	100 g. beef.
5.05	22,000
	Slightly increased by alcohol. Markedly increased by beef.

Ethyl Alcohol.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.
10.00	14,314
10.35	12 ccm. alcohol.
11.05	11,536
11.35	14,313
12.35	13,234
4.00	100 g. beef.
5.00	30,500
6.00	27,974
	Decreased by alcohol. Markedly increased by beef.

Fennel Oil.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.
9.55	12.950
10.05	2 ccm. fennel oil.
10.25	22,392
11.05	28,172
11.45	Salivation; vomits.
12.05	22,682
5.05	18,635
Max. Increase	117 per cent.

Strychnine.	
Time.	Number of White Blood Corpuscles in Cubic Millimetre.
9.45	11,226
10.05	12,079
10.10	0.0005 g. strychnine.
11.10	23,628
12.10	18,289
Max. Increase	101 per cent.

The first two of the given experiments demonstrate that beef food has a remarkable power to increase the number of white blood corpuscles, and the next two show that ethyl alcohol rather diminishes, but that the subsequent administration of beef food to the same animals increases the number of white blood cells; while the last two prove that fennel oil and strychnine possess a most extraordinary influence over the process of white blood corpuscle production. In a general way it may be said, therefore, that here we have a large group of therapeutic agents with which we are able to modify and enhance the functions of digestion and absorption of the alimentary canal, as well as to influence favorably the blood-building process. It is also true that many of these agents have peculiar qualifications which are suited to individual cases and conditions, to a consideration of which we shall now apply ourselves.

SIMPLE BITTER TONICS.

Quassia is one of the best known tonics. It exerts a narcotic influence on insects, and in large doses, especially in the case of children and delicate adults, it may give rise to nausea, vomiting, dizziness, deafness, and involuntary muscular movements. Like calumba, it is devoid of tannic acid, and may be given with iron, which increases its utility. It greatly enhances the formation of white blood cells in the walls of the alimentary canal. It may be given in the form of tincture or infusion. The following formula will be found useful when indigestion is associated with a sluggish action of the liver and bowels and an eczematous or acneous eruption of the skin:

℞. Magnesii sulph., ℥i;
Ferri sulph. gr., xxv;
Sodii phosph., ℥i:
Acidi phosph. (dil.),
Acidi sulph. aromat., āā f℥i;
Infus. quassiæ, q. s. f℥iv.—M.
Sig.—One tablespoonful in a glass of cold water before breakfast.

Gentian root is a powerful tonic, imparts force to the circulation, and elevates the warmth of the body. When combined with geranium maculatum, it is useful in checking diarrhœa, hæmoptysis, and hemorrhage from other mucous surfaces. It is very beneficial in gouty dyspepsia, and the infusion, in combination with either sodium or potassium bicarbonate, is most useful in relieving the nausea and vomiting of pregnancy.

Colombo root, although not used as much as quassia or gentian, is certainly the equal of either in many respects. It greatly promotes the development of the white blood cells in the walls of the digestive tract. It is devoid of irritating properties, and may, therefore, be administered in cases where the gastric and intestinal mucous surfaces are unusually sensitive, as in pulmonary phthisis, diarrhœa, cholera morbus, etc.

Boneset is a stimulant and tonic in small doses, but becomes a diaphoretic and emetic in large doses. Its effects are analogous to those of chamomile. Some hold that it stimulates the functions of the sympathetic nervous system. Being of an intensely bitter character, though not included in the list of drugs the leucocytogenesis of which he tested, it is quite probable that Dr. Pohl's experiments point out the reason why this drug has maintained itself so well among our useful and popular tonics. Although inferior to quinine in many respects, it is a much-lauded domestic remedy in fever and ague. The hot infusion is useful in breaking up acute cold and catarrh of the chest.

Horehound is a very useful stimulant tonic when dyspepsia is associated with bronchitis, hoarseness, cough, and other pulmonary affections. It is also diuretic, and has been found efficacious in relieving mercurial salivation. It is given in the form of infusion or syrup.

Virginia snakeroot, in small doses, promotes the appetite, and stimulates the heart and the whole arterial system. In the form of infusion, it is a most valuable remedy in the convalescence from exhausting fevers, like those of typhoid and malaria.

Wormwood is a tonic which contains an oil and a bitter principle called absinthin. It has a powerful action on the nervous system, and, according to Dr. Pohl, it increases the formation of white blood cells. In addition to its tonic property, it is an anthelmintic and a diuretic. It is one of the ingredients in *aromatic wine*, an officinal preparation, in which form it is best given.

Prickly ash, on coming in contact with the mucous surface of the mouth, causes a feeling of warmth and bitterness, which is rapidly diffused throughout the mouth and lingers for a long time in the fauces. When taken internally in ordinary doses, it engenders a profuse flow of saliva, excites a sensation of heat in the stomach and intestines, accelerates the action of the heart, infuses energy into the capillaries, raises the blood pressure, and produces exhilaration of the whole body. In the dyspepsia of asthenia, it performs excellent service. It is of much use in the flatulency, colicky pains, and diarrhœa of nervous patients. Its action simulates that of strychnine very much, and is therefore applicable in most forms of indigestion which are associated with nervousness. It may be used in the form of a decoction, or in that of the fluid extract, the dose of which is from ten to thirty minims.

Golden seal is very bitter, and produces an excessive mucous discharge from the mouth and nose when taken in large doses. Dr. Rutherford has proved it to be a moderately powerful hepatic stimulant, and also a feeble laxative. My own experimental and clinical researches with hydrastine, its alkaloid, show that when locally applied to the skin or mu-

cous surfaces it is analgesic, and when injected hypodermically it slows the human pulse by from eight to twelve beats per minute. Experiments on animals demonstrate that it contracts the blood vessels and raises arterial pressure. It is one of the most favored tonics with eclectic practitioners. It seems to be best adapted to that form of dyspepsia which is associated with hepatic torpor. It is quite probable that hydrastine represents the action of the whole plant. In drunkard's anorexia and vomiting, the administration of one grain of hydrastine and half a grain of oleoresin of pepper every three hours is followed by excellent results. The dose of the fluid extract is from three to thirty drops, and of hydrastine hydrochlorate from one-half to two grains.

Nvx vomica is an intensely bitter substance, and when small quantities of it are added to water containing low organisms it increases their activity, but large doses lessen this. It also diminishes the oxidation of protoplasm and that taking place in the blood (Brunton). Small doses enhance the irritability of the spinal cord and of other reflex nerve centres. Large doses produce convulsions. In small doses, from one-eighth to one-half a grain of the extract, it increases the appetite, and by its power to enhance peristaltic action of the intestines it counteracts constipation. It is, therefore, one of our best tonics, and, according to Dr. Pohl's observations, it ranks very high as a leucocytogenetic agent. Twenty drops of the tincture of nux vomica and thirty drops of the tincture of capsicum in water form a most useful combination to check the vomiting, diarrhœa, and general irritability which are often present on the borderland of *delirium tremens*. Large doses of strychnine, I have been taught from experience, are decidedly indicated in the treatment of *alcoholic phthisis*. The following combination will be found efficacious here:

℞. Phenacetini, gr. xl;
Quininæ sulph., gr. xx;
Strychninæ sulph., gr. i;
Atropinæ sulph., gr. $\frac{1}{25}$;
Pulv. capsici, gr. x.—M.
Ft. capsulas no. xx. Sig.—One capsule four times a day.

In the course of a few weeks the dose of strychnine can be increased with benefit to one-twelfth or one-tenth of a grain every four hours.

Cayenne pepper, when applied to the skin, produces warmth and redness, and when chewed excites an intense burning in the mouth and throat. In large doses it causes nausea, vomiting, diarrhœa, and intestinal colic, and deranges the functions of the nervous system. In small doses it cleans the dry, coated tongue, infuses fresh life into the perverted action of the gastric nerves, stimulates the secretion of the digestive fluids, and promotes intestinal function in chronic alcoholism. It promotes the growth of white blood cells in the walls of the intestines. It may be given in the form of the powder, of the tincture, or of its oleoresin.

Mustard, like pepper, is a favorite condiment, and, according to Dr. Pohl, it possesses the useful property of stimulating the process of leucocytogenesis, and this may be the great secret of its staying qualities as a domestic appetizer and tonic.

Common centaury has the reputation of being one of our best bitter tonics, and this may be accounted for by its remarkable influence on the building up of white blood cells. There is no officinal preparation of this plant, but it may be given in infusion.

SEDATIVE TONICS.

Wild cherry bark, owing to its peculiar combination of a bitter element with amygdalin, acts like quassia and hydrocyanic acid. It is very useful in dyspepsia, and in conditions of general feebleness following fevers and other exhausting diseases, in which an erethistic state of the gastric nerves exists at the same time. In pulmonary consumption it quiets the cough, allays irritability, and improves the appetite.

Hops are both tonic and hypnotic, produce sleep and sometimes relieve pain, and are very useful in chronic dyspepsia when this is associated with restlessness and irritability. A hop pillow very frequently overcomes sleeplessness. Beer, porter, and ale are tonics and hypnotics, and if used in moderation are capable of producing good.

AROMATIC TONICS.

This group of agents is generally employed for the purpose of giving pungency to, and disguising the taste of, bitter and disagreeable medicines, and of removing flatulence by stimulating intestinal contraction. The experiments of Dr. Pohl, however, show that, besides these properties, they exert a most influence over the processes of digestion and of absorption, and that they are to be reckoned among the most important of the tonic class. The best of the aromatic tonics are common fennel, anise, cloves, peppermint, cardamon, allspice, ginger, canella, cinnamon, wintergreen, lavender, vanilla, nutmeg, cajuput, and acetic ether.

MISCELLANEOUS TONICS.

Among the tonics which do not come under any of the previous classes are the following:

Turpentine oil, in small doses, produces a copious flow of saliva and a warmth in the stomach. It is useful in gastric and intestinal catarrh, and in the flatulence and diarrhœa of typhoid fever. Dr Pohl's experiments show that it has a direct influence on the lymphatic tissue of the alimentary canal, and to this selective action is probably due its great usefulness in the treatment of typhoid fever.

Myrrh promotes the growth of white blood cells in the walls of the

digestive tract, accelerates the pulse, and is a useful agent in chronic catarrh of the mucous surfaces. It is an important ingredient in Warburg's tincture.

Musk is a promoter of white blood-cell generation and a valuable stimulant of the nervous system. It is employed in the collapse of typhoid fever, and in hysteria and other nerve disorders.

Bismuth subnitrate has a very soothing effect on irritable mucous surfaces, and for this reason is largely employed in dyspepsia, gastritis, ulcer of the stomach, diarrhœa, dysentery, etc. Its beneficial action is supposed to be largely owing to its mechanical intervention—*i.e.*, by forming a protecting layer over the affected surfaces. But this important drug also possesses the power of hastening leucocytogenesis, and hence it directly aids absorption and assimilation.

Iron. According to the investigations of Dr. Pohl, at least two preparations of iron—the chloride and the dialyzed oxide—must be regarded as stimulants to digestion, inasmuch as they accelerate the building up of white blood cells in the walls of the intestines. It is currently believed that iron, even in small doses, is an irritant to the stomach and to the bowels, that it interferes with digestion, and that hence it is not to be given in digestive disorders, or in any disease which is accompanied with a coated tongue. This cautiousness is of rather doubtful utility, so far as the two above-named chalybeate preparations are concerned. Practically, the injunction is also freely disregarded, for many practitioners have seen a coated tongue and a deranged digestion disappear under the use of the tincture of iron.

In estimating the therapeutic value of tonics, we must bear in mind, then, that, in addition to their influence on the secretion, innervation, and contraction of the alimentary canal, they have another and very important function, viz., that of enhancing the formation of white blood cells in the mucous membrane of the same structure. What, then, is a true interpretation of this action? Is it that these agents, besides their other functions, are genuine blood-builders? The lymph glands of Peyer, with which the intestinal wall is studded, in common with the spleen and the other lymphatic glands throughout the body, are actively engaged in transforming and organizing nutritive material into leucocytes, or white blood cells. As has already been stated, the latter are always increased in number after the ingestion of food. During fasting there may be one white to one thousand red corpuscles, while after a meal the proportion may rise to one in three hundred. Such an increase of white blood corpuscles has been observed in the mesenteric circulation by Dr. Pohl, not only after food was given, but also after the administration of many of the therapeutic agents which we have considered this evening. The im-

portance of this influence will be fully realized when we consider that recent advances in physiology make it exceedingly probable that a large number of red blood corpuscles are nothing else than transmuted white blood cells—the change consisting principally in transforming the protoplasm of the latter into hæmoglobin and stroma (Foster).

Unlike food, then, these agents do not yield any material wherewith the leucocytes are constructed, but they contribute the requisite force or stimulus to incite the lymph glands of the alimentary mucous membrane to manufacture and transform the reserve nutritive material into animated blood cells. It is manifest, therefore, how tonics, when given before or during a meal, enhance the absorption of digestion products, for the leucocytes carry the peptone from the intestinal wall into the blood current, and assist in creating a desire for more food; and this, too, is one of the best reasons why we regard our tonics as the most serviceable class of agents in the materia medica.—*From International Clinics, Vol. II., 2nd series.*

THE TREATMENT OF ACUTE CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

By James T. Campbell, M.D. Tor., M.R.C.S. Eng.,

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IN a recent article it is reported that of 10,000 deaf-mutes in institutions in the United States and Canada fifty per cent. of these are afflicted through having suffered from acute inflammation of the middle ear in infancy; scarlet fever of itself being credited with about 30 per cent. of these cases; while an untold multitude go through life with hearing to a greater or less extent impaired from damage done to the membrana tympani and ossicles. From this showing it appears to me that there must be something radically wrong in the treatment generally adopted.

As to prophylactic measures the nasal douche should never be employed, because of the great danger of forcing fluids up through a patent Eustachian tube and its gaining admission to the tympanic cavity.

In all cases of inflammation of the tonsils or inflammation in the naso-pharynx, local antiseptic treatment should be adopted. Where there is interference with the free opening and drainage of the Eustachian tube during the act of swallowing, as a result of hypertrophy of the adenoid tissue in the naso-pharnyx, or a polypoid degeneration of the posterior portion of one of the turbinated bodies, one should at once remove the obstructing mass.

When, however, inflammation of the middle ear has developed, local treatment must be employed. Instil into the external ear five to ten drops of a warmed 5 per cent. solution cocaine with a 2 per cent. solution of resorcin, tilting the head in such a position that the drops will become applied to the whole surface of the membrana tympani. Leave these drops in for ten to fifteen minutes, and then remove with a pledget of cotton-wool. Repeat this every three to four hours so long as pain in the ear continues. Place a large gauze compress, which has been wrung out of a hot boracic acid solution, over the ear and cover the whole with oiled silk, so as to retain the heat and moisture, changing this sufficiently often to keep the gauze constantly hot.

Inflate the middle ear with Politzer's rubber bag, using air which has been filtered by placing a small pad of antiseptic cotton-wool over the tip of the bulb during inspiration, force out the air and repeat this process once of twice before using. Now place the patient's head in such a position that the Eustachian tube of the affected side is directed downward and forward during inflation; in this way not infrequently the exudation into the middle ear, particularly when it is serious in character, trickles down the patent tube. Repeat this inflation several times during the course of the day.

Should the physician not possess a Politzer bag, he may in an imperfect way try to accomplish the same result by taking a piece of rubber tubing, put one end within the child's nostril and hold it in place by pinching the tip of the nostril between the index finger and the thumb, and then blowing very forcibly through the other end when the child swallows. With a child old enough to do as directed, the proper time to compress the air bulb in inflating the ear is just as the soft palate is raised during the act of swallowing a sip of water, or when having him say the word "huck." In an adult the most thorough plan is by using the Eustachian catheter in conjunction with the air bulb.

General derivative measures should be adopted by the use of saline cathartics, diuretics, diaphoretics, and cardiac sedatives, while, in addition, it is well to place, in the case of a child, one, and in adults three, leeches in front of the tragus for fifteen minutes to produce rapid depletion; being careful, however, to have a pledget of cotton-wool in the external meatus to prevent the entrance of leeches into the external ear.

These measures proving unavailing, as evidenced by pain increasing in severity, the membrana tympani being much reddened and swollen, with bulging and a yellowish coloration of the posterior segment, one must perform myringotomy.

The incision is made in the postero-inferior segment, from near the tip of malleus downwards. Then take Politzer's rubber bag, and, by way of

the Eustachian tube, force the exudate in the middle ear out through the opening in the membrana tympani. Carefully syringe out the external ear with a saturated boracic acid solution, and, after drying out the ear, blow in some very finely powdered boracic acid, and place in the external meatus a plug of antiseptic cotton-wool. Continue the inflation twice daily, and see that the incision in the membrana tympani keeps open so long as any exudate continues to collect in the middle ear and can be forced out with the rubber bulb.

By carefully carrying out the above-described measures we shall have a much smaller percentage of deaf-mutes in our midst, and have fewer sufferers from perforated membranæ tympani and chronic suppuration of the middle ear, with all its attendant evils.—*Annals of Ophthal. and Otology.*

(*TRANSLATION.*)

THE MODERN TREATMENT OF TUBERCULOSIS OF THE JOINTS.

KÖNIG (*Archiv. fur Klin. Chirur.*, 44 B. and 3 Heft., p. 592) classes the means employed under three heads:

(1) Local radical treatment by operation.

(2) Local treatment by means of subcutaneous medicated injections.

(3) Treatment of the joints by mechanical means.

Early resection he regards entirely with disfavor. A considerable number will recover spontaneously; the necessity is urged of a return to the old methods of immobilization by means of gypsum, fixation, continued extension and compression. The faulty positions assumed in hip disease through contracture are at once corrected by continuous extension. Afterward he applies fixation by means of gypsum, which remains in place six or eight weeks; at the end of that time the patient returns; and if any new contracture has arisen it is remedied, and a new plaster dressing is applied. This treatment is continued until all traces of tenderness on pressure, on striking the heel, and upon movement, have disappeared. The length of time required varies from six months to two years.

In cases which do not recover by these means, injections of iodoform are used. Without doubt, a considerable number of tuberculous joints recover by this treatment; but there are some that resist, and others, who must make a living by their work, who cannot continue treatment for so long a time. Here resection becomes a necessity.

Of 410 cases presenting at the Göttingen clinic of tuberculous coxalgia, about half were treated conservatively—150 by extension and plaster, and

50 by the opening of abscess and injection of iodoform in glycerine. In 210 cases resection was made, with a mortality 19 per 100.

The following are the results of 100 resections of the knee in persons from 20 to 66 years: 6 succumbed to the operation; 5 died in the following month, 4 of septicæmia or erysipelas, and 2 of tuberculosis; 64 recovered completely; 16 still had fistula; 8 had amputation performed.

Of 70 of the cases traced in 1888, 43 were still in good health; 20 were dead, mostly of tuberculosis; 6 still had fistula.

In resection complete extirpation of the capsule is recommended, but he warns against going too far in this matter. König is not in favor of resection of the cotyloid cavity, as recommended by Bardenheuer and H. Schnied, in coxalgia, as it is not so much at this point as at the lesser trochanter that difficulty is experienced in getting completely rid of the tuberculous products.

Another operation to be recommended is that for the complete removal of intra-osseous tuberculous foci. Unfortunately, the indication for it is rarely discovered; one is called too late; tubercle has already invaded the joint. The extirpation of the bone disease should then be associated with distention of the joint by iodine in glycerine. Extirpation of the capsule with simple cleansing of the foci, and without osseous resection, should be performed only in children; in adults it is generally not sufficient.

He concludes that up to the present it is not possible for us to obtain a perfect cure, in the true sense of the word. We may look for only a local radical cure, whether by operation or therapeutics. This is a result, however, not to be underestimated by the means at our disposal to render tuberculosis latent, or to restore a member to its functions.

Senn ("Tuberculosis of Bones and Joints") records the following illustration of the efficiency of iodoform treatment in grave cases of tubercular abscess. The patient was a delicate girl of eight, who had suffered from a tubercular spondylitis at the junction of the last dorsal with the first lumbar vertebra for six months. Slight angular posterior curvature. Within two months an enormous abscess developed in the right lumbar and iliac regions. Below, the abscess extended to Poupart's ligament; above, to the last rib. The abscess was very prominent in the lumbar and inguinal regions. The child had a temperature of 104° F. every evening. The abscess was punctured, under strict antiseptic precautions, in the lumbar region and nearly two quarts of tubercular pus evacuated. The abscess cavity was irrigated with a 3 per cent. boric acid solution until the fluid returned perfectly clear, and two ounces of a 10 per cent. mixture of iodoform in glycerine injected. The puncture was sealed with a pledget of antiseptic cotton and iodoform collodion. The first injection had no effect in reducing the

temperature; at the end of a week it was repeated, and about half as much tubercular pus removed. The temperature in a few days after the first injection was normal. The third and last injection was made four weeks after the first. At this time only about six ounces of a viscid fluid were removed. The child improved in general health, and after this time no reaccumulation of fluid occurred. At the present time, six months after treatment was commenced, the child is wearing a plaster of Paris corset, and appears to be in perfect health.—*B. E. McK.*

(*TRANSLATION.*)

ISCHIO-PUBIC DISLOCATION—IRREDUCIBLE—OF FOUR MONTHS' STANDING—RESECTION OF THE FEMORAL HEAD AND REPLACEMENT OF THE NECK IN THE COTYLOID CAVITY.

Abstract of paper by Tellaux, Paris, in *Revue D'Orthopédie*, January, 1893.

ON February 10th, 1892, a man of 53 years fell on the street and was run over by a passing carriage, the wheel passing from the outside over his right thigh, producing but a very slight abrasion. At once the femur assumed the position in which M. Tellaux found it. No attempt at reduction was made. At the end of eight weeks, discouraged by seeing no increase of the movement, the patient sought advice and came under the care of M. Tellaux. June 8th, 1892, lying on bed and limb in repose there was flexion to 30° with the axis of the body, considerable abduction, the knee lying upon the bed, and rotation outward so pronounced that the external surface of the femur lay on the plane of the bed. The femoral axis, prolonged upward, would cross the median line of the body midway between the umbilicus and the pubes. When the superior anterior iliac spines were brought to the same level, there was found 20 centims. of shortening in the right extremity. In repose there was tilting of the pelvis so that the right iliac spine was 8 centims. lower than its fellow.

On palpation the head of femur was found displaced very much inward, under the insertion of the adductors, and distant from the median line only a finger's breadth. On raising the scrotum, the head was felt in the perineum. It had preserved its roundness, and was found to move slightly as the femur was moved. This position of the head caused the appearance of much swelling in the upper part of the thigh, and an increase in its transverse diameter. The great trochanter was buried in a mass of

muscles about the cotyloid cavity. The vessels were not moved from their position, being 9 or 10 centims. distant from the head of the femur.

Standing up, rotation appears less marked because of some compensatory rotation of the tibia on the femur; flexion is less noticeable; the abduction remains considerable and is the most marked sign, the malleoli being 25 centims. distant from each other. Through much tilting of the pelvis and curving of the lumbar spine, the feet are placed on the ground at the same time. The movements, passive and active, are very limited and painful. He walks with difficulty, aided by a cane; he moves the affected limb slowly forward, and brings the other forward more briskly; he cannot, without risk of falling, place his weight on the affected limb. Atrophy of the right thigh, 2 centims., at a distance of 10 centims. above the patella.

Operation June 9th. After two fruitless attempts at reduction by means of the pulleys a cutting operation was performed by M. Tellaux, assisted by M. Walter, and in the presence of MM. Ollier and C. Nélaton. The incision began at the genito-crural fold, and extended 10 centims. downward behind and parallel with the tendon of the adductor magnus, cutting thus directly downward upon the femoral head. Attempts at liberation proved unavailing, the head being imprisoned and held immovable by the surrounding tissues. Resection of the head was made with chisel and mallet. The neck was now easily placed in normal relationship with the cotyloid cavity, which was so little altered as to require no interference.

Extension and traction were continued up till August, and during this month the patient lay on a bed and was permitted to move the limb. In September he got up and walked, at first with crutches, and afterward with canes. Left the hospital at the end of September. At that time no deformity apparent; necessary to observe closely in order to notice the flattening over the trochanteric region.

The limbs were parallel, no difference in length, movements good, rotation normal, flexion to a right angle, abduction and adduction as on the sound side, movements executed voluntarily and with energy, walks easily with a cane, but can do without it. When walking, there is nothing to show that an operation had been performed.—*B. E. McK.*

Clinical Notes.

PRESSURE TREATMENT OF ANEURISM.

By Harold C. Parsons, M.D.,
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THOUGH aneurism is a tolerably frequent condition, it is seldom that one has the opportunity of watching such cases under pressure treatment, and it is for this reason that I report the following case as being of, perhaps, especial interest.

The patient, a man of 60 years, was admitted to the Toronto General Hospital, under Dr. L. McFarlane, on November 24th last. The history of the case is as follows: Early history unimportant; habits good; his occupation did not demand any great exertion. Ten years ago patient suffered from an acute attack of rheumatism; recovery apparently complete. About two years ago patient noticed in the right popliteal space a mass about the size of a hazel nut, freely movable, and, according to him, non-pulsatile and non-expansile. This caused no inconvenience.

In July, 1892, there was a recurrence of the rheumatism, which chiefly affected the right knee-joint; whereupon the mass previously mentioned rapidly enlarged, this being attended by considerable pain. On entrance to hospital condition was as follows:

Posterior to right knee-joint there was situated a large mass, pulsatile and expansile. The popliteal space was obliterated, and the mass extended laterally. Internally, it formed a decided enlargement in the natural contour of that part, and passed forward so as to reach the level of the anterior surface of the thigh. About six inches above the flexure of the joint the enlargement gradually tapered off into the normal shape of the thigh; below, it ceased more abruptly, just below the bend of the knee. Externally, the enlargement was quite noticeable, but by no means as pronounced as internally, nor did it extend so high. The circumference at that part was 2½ inches in excess of that of the healthy limb. The tension within the tumor was great, and on controlling circulation through the femoral artery by pressure in Scarpa's triangle that tension and pulsation ceased, and the mass was rapidly reduced in size, both conditions disappearing as soon as the pressure was withdrawn. A brûit was heard over the seat of Hunter's canal, and a distinct thrill felt over the same area.

The subjective symptoms amounted only to a dull aching, both in the tumor and in the calf, which was increased when in a dependent position. The vessels generally were decidedly cordy.

Without entering into any further details regarding the nature of the trouble, we shall endeavor to follow out the progress of the treatment.

By reason of the degeneration in the vessels, it was thought inadvisable to adopt any line of treatment that would too suddenly pour the circulation into a collateral system. Hence it was decided to apply the pressure treatment. Digital pressure was performed, but to supplement this an instrument was employed by which a weight of 2½ lbs. was brought to bear upon the vessel, its point being guarded by an air-cushion, this being held in position by the hand. The treatment was commenced on Saturday, November 26th, at 5.30 p.m., and for the first twelve hours only partial occlusion of the vessel was aimed at, after which a complete arrest of circulation.

After eighteen hours' treatment there was a distinct change in the aneurism. At the lower and inner part it was noticed to have become quite firm, and on removal of pressure the pulsation was *nil*, though in other parts it was as formerly. A gradual extension of this firmness was appreciable from below upwards, and by Monday morning—*i.e.*, after about forty hours' treatment—the whole aneurismal sac was firm, and on removal of pressure above pulsation was absent, except in one line running from upper and lower part of sac to upper and lower corner of the patella. On the supposition that there still existed a channel through the sac, treatment was continued until that evening at 9.30, when finding no improvement from the condition of that morning, and as the patient was showing signs of fatigue, treatment was discontinued.

Thus the treatment was applied, in all, for fifty-two hours; but very possibly forty hours would have been sufficient. The channel which was so misleading appears to have been a collateral branch, as it persisted and was quite as perceptible when I examined the patient a week later as it had been at the end of the forty hours.

The patient bore the treatment well for the first twenty-four hours or so, but later showed plainly the degree of strain upon him. During the last eighteen hours delirium set in, and pulse became small and rapid, the repeated administration of morphia failing to procure rest.

After four days' perfect quiet, patient was able to be up and about, the tumor was much reduced in size, and pain was absent.

It was by the help of a number of the students of Dr. McFarlane's clinical class, who kindly volunteered their services, that the above line of treatment was rendered possible. They came on in pairs for three-hour watches, relieving one another about every fifteen or twenty minutes. The pressure was both digital and instrumental, but I think the former was preferred by the majority as the easier of application, for by it one could more readily judge as to the degree of control upon the circulation in the

vessel; also, it is not such an arduous task as would appear at first sight. The instrument, referred to previously, invented and constructed by Dr. Charles O'Reilly, was a piece of lead pipe eight inches long, with a calibre of one and a half inches. One end was furnished with a rubber tip having an air-cushion surmounting it. The lumen of the pipe was filled with shot, and at its other end there was a handle by which a cord could be attached for the purpose of suspension. When first applied, it was suspended by a cord passing through a pulley just above the pressure point; this then led over the head of bed and was supplied with a counterpoise, by which means the instrument was kept in a perpendicular position. In this case, however, all this gearing was dispensed with; for it was found quite difficult enough to compress the vessel without having to raise the counterpoise in addition.

A few days ago I received a note from the patient stating that, as far as his aneurism is concerned, he is perfectly well, and has been so since his discharge from the hospital. During the past winter there has been a slight recurrence of rheumatism, chiefly affecting the right knee-joint, which has left it somewhat painful. The mass in the popliteal space has diminished markedly in size, and what remains is quite soft and free from pain or inconvenience of any kind. Perhaps this may have been a particularly favorable case to work on; but, be that as it may, I think we may justly place this in the list of successes in the pressure treatment of aneurism.

ARTIFICIAL RESPIRATION IN ASPHYXIA NEONATARUM.

By A. T. Rice, M.D., Woodstock.

IN the last issue (March 11th) of the *Medical Record*, Dr. Harvie Dew, of New York, discusses the various methods of accomplishing the above result, and puts it very plainly as to his own methods; but while I do not wish to discuss or criticize his paper, I wish to call attention to a case of my own that failed to yield to his method.

A few weeks ago I was called at 10 a.m. to attend Mrs. M., in her first confinement. The labor proceeded satisfactorily until 1 p.m., when I deemed it advisable to relieve her with the instruments, which I did, using the short forceps.

The child was delivered at 1.10 p.m., and as I found it necessary to resuscitate it I proceeded to do so; but, as the sequel showed, found it a somewhat difficult matter.

I first used the ordinary methods employed in simple cases, and as it did not succeed I adopted the method advocated by Dr. Dew, but without success, and almost despaired; but finding the cord pulsating and the heart beating about forty, I tied the cord and again resorted to Dr. Dew's plan, without success.

I might here state that the method mentioned consists of grasping the child across the shoulders with the left hand, allowing the neck to rest between the thumb and forefinger, the head falling far back serving to throw open the epiglottis and inducing an inspiration. This is followed by the reverse movement to compress the chest and expel the air.

I then placed the child upon the bed, and placing my mouth over that of the child I gradually inflated the lungs, and produced expulsion by pressure upon the chest walls.

After two or three such movements the pulse bounded up to 100, and a distinct flush overspread the body.

This was certainly encouraging, and I kept this up for fully half an hour, when at 2.15 the child gave the first inspiration, followed in about half a minute by a second. I still supplemented its own efforts until finally respiration was regularly established.

To me this showed the importance of persevering with these cases, even when failure seems to be evident, as I have no doubt many a child is laid aside as "stillborn" where life might have been saved to gladden the hearts of anxious and expectant parents.

RELATIVE DANGERS OF CHLOROFORM AND ETHER.

Abstract of paper by MR. ARTHUR WILLIAMS in *Birmingham Medical Review*, with annotations by JAMES F. W. ROSS, M.D.

DISCUSSIONS on the relative dangers of chloroform and ether are always interesting to the profession.

The *Birmingham Medical Review* has considered the paper of Mr. Arthur Williams, published in the *Medical Chronicle*, on the relative safety of ether and chloroform, of so much interest that it has published it almost in its entirety. The report is founded on the records of St. Bartholomew's Hospital, where, for many years, the number of administrations and the anæsthetic used have been accurately noted. This is dated back to the year 1875, and continue up to the year 1890.

CHLOROFORM. The years 1875-76-77 average about seven hundred administrations per annum, with no deaths; in 1878, one death; in 1879 nearly one thousand administrations, with one death; in 1881 over one thousand, with one death; in 1882-3, two deaths in each year, with an average of about fourteen hundred administrations yearly; in 1884-5 no deaths, and an average of about thirteen hundred administrations yearly; in 1886-87-88, one death each year, with an average of about sixteen hundred administrations yearly; in 1889, two deaths in sixteen hundred and one administrations; in 1890, one death, with eighteen hundred and sixty administrations. The total this made was thirteen deaths out of nineteen thousand five hundred and twenty-six administrations, or one in fifteen hundred and two.

ETHER. Only four deaths occurred, with the administration of ether, out of twenty-one thousand three hundred and thirty-two administrations, or one in five thousand three hundred and thirty-three. But twelve thousand nine hundred and forty-one of these cases had gas given previous to the administration of the ether, and in this number only one death occurred; thus leaving the deaths from ether alone as three out of eight thousand and ninety-one cases, or one death in two thousand seven hundred and ninety-seven. Two deaths occurred in 1878, one in 1880, one in 1882, and one in 1890. From this comparison, it would certainly seem to follow that ether is a very much safer anæsthetic than chloroform. (Of course the fact that has been stated by many that chloroform produced immediate death on the table, and that ether produces it at a remoter period, must not be lost sight of in comparing the mortality of the two drugs. There is no doubt that cases die from a bronchial irritative catarrh subsequent to the administration of ether, and that such deaths are not included in the lists kept by any hospital.) It is interesting to have grouped on one page a number of deaths from chloroform. We, therefore, extract these bodily:

CHLOROFORM.

SEX.	AGE.	DISEASE.	FORM OF DEATH.	POST-MORTEM.	STAGE OF OPERAT'N.
Male.....	52 yrs.	Cellulitis of leg.	Syncope.	Fatty degeneration of the heart.	Operation was concluded.
Male.....	26 "	Pyonephrosis.	Syncope.	None.	Operation not begun.
Male.....	56 "	Epithelioma.	Apnœa or asphyxia.	Right lung fixed to chest wall, heart normal.	Operation not completed.
Male.....	53 "	Reopening wound.	Weak and irregular pulse.	Heart hypertrophied and dilated, mitral valve diseased.	Before operation.
Male.....	52 "	Epithelioma.	Pulse imperceptible, breathing ceased.		Before operation.
Male.....	30 "	Setting of fracture.	Asphyxia.		
Male.....	11 "		Syncope.		
Male.....	1½ "	Diseased ankle in splint.		Heart hypertrophied and dilated.	Operation begun.
Child.....	8 mos.	Harelip.	Syncope, respiration continued after pulse stopped.	Hypertrophy of heart, dilated left ventricle.	Operation not begun.
Female...	72 yrs.	Eyeball enucleation.	Syncope.	Heart large and fatty.	
Female...	50 "	Opening abscess.	Syncope, feeble circulation.		Operation not begun.
Not given.			Syncope.		

It is impossible for clinicians to abandon the evidence of their senses in this matter at the dictum of the Hyderabad Commission.

Fatalities occur most frequently before the commencement of the operation, and while anæsthesia is uncompleted. This was the case in six out of ten cases. In two cases the accident occurred while the operation was in progress, and in two cases just after its completion.

Eleven out of twelve deaths were caused by syncope. On *post-mortem* examination in six of the above fatal cases, the heart was found to be extensively diseased in all but one; in two it was in an advanced state of fatty degeneration, and in three it was markedly hypertrophied and dilated. It may, therefore, be concluded that disease of the heart adds greatly to the risks of chloroformisation.

ETHER.

Sex.	Age.	Disease.	Form of Death.	Post-mortem.	Stage of Operat'n.
Male.....	56 yrs.	Fractured leg, drunkard.	Syncope.	Lungs engorged, heart flabby.	Operation completed.
Male.....	61 "	Strangulated hernia.	Pulse imperceptible, respiration ceased.	Heart slightly fatty, cavity empty, lungs emphysematous, and engorged behind.	
Male.....	47 "	Intestinal obstruction collapsed.	Pulse became elevated and died.	None.	Ten minutes after administration
Female...	21 "			Plural effusion, heart displaced to left, ureters dilated and suppurating.	Before operation.

Thus in all these deaths under ether the patients were the subjects of exceedingly grave disease which had dangerously depressed the heart's action.

After a large experience in the administration of ether alone, of chloroform alone, of ether and chloroform combined, of alcohol, chloroform, and ether, I have been forced to the conclusion that the administration of alcohol with the chloroform and ether is unnecessary; that the administration of the mixture of chloroform and ether with any inhaler with a bag attachment requires more experience for its safe administration than ether or chloroform require when given separately; that many cases in which the administration of chloroform is commenced ether will have to be substituted, and the indication for this substitution can only be obtained from the pulse; that the pulse should always be watched as well as the respiration, and I have been warned over and over

again by my anæsthetist that ether must be substituted for chloroform from the information he has obtained from the pulse, and in this way, I believe, fatalities have been averted; when the pulse becomes exceedingly rapid and feeble, or when it becomes extremely slow, the danger limit is approached, and the administration of chloroform should be discontinued. I have had more difficulty with patients to whom the anæsthetic has been given by practitioners imbued with the idea that nothing but the respiration requires watching, the outcome of what they have read in the reports of chloroform commissions, than I have had with any other cases.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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Period of Infection in Mumps.

The question as to the transmission of the infectious diseases and the exact stage of the disease at which infection is most likely to occur has been satisfactorily settled regarding most of the exanthemata. In mumps, however, the case is different, some authorities maintaining that the disease may prove infectious throughout the whole of its course, whilst others are of opinion that this is only the case at the commencement of the attack. Dr. Rendu, in a paper read before the Société Médicale des Hopitaux, related two cases which are valuable as throwing light upon this point. A young lady visited her mother on Jan. 2nd, who complained of slight malaise; on the following day, however, she developed mumps. On Jan. 24th her daughter, who had seen her on the 2nd, but not since, was likewise attacked. In the interval she had seen no person who was suffering from the disease. Dr. Rendu argues, therefore, that a case may be infectious even before the characteristic paratoid swelling has made its appearance. A second case was very similar to this one. A child ten years old was attacked after being in company with a friend who, although then showing no signs of the disease, was found a few hours afterwards to be suffering from it. Mumps is, therefore, evidently infectious at the termination of the period of incubation. Dr. Rendu is of opinion that infection is conveyed by means of the breath.—*London Lancet.*

Hernia of the Lung.

Dr. Eugenio Sanchez Agramonte writes to the *Revista de Ciencias Médicas* of Havana that, having read an annotation in *The Lancet* of Dec. 3rd, 1892, referring to the rarity of cases of pulmonary hernia, and giving an account of one which was successfully treated by excision and reduction of the stump by Dr. Massari, he feels bound to record a somewhat similar case occurring in his own practice. The patient was a young man twenty-seven years of age, who had received a wound from a penknife between the ninth and tenth ribs in the axillary line on the left side. When he was seen eleven hours afterwards the lung was found to be protruding from the wound, the extruded portion being dry, like parchment, of a violet color, and about ten centimetres in breadth. There was no hemorrhage. The wound was only about two centimetres in length. Thinking that the return of such a mass in the condition in which it was might be dangerous Dr. Agramonte determined to excise it. The pedicle was secured by means of stout catgut in a figure of 8. After excision the stump was cauterized with a concentrated solution of carbolic acid. It was then returned into the pleural cavity, the wound washed with a boracic lotion, the lips brought together with carbolized silk, and a dressing of boracic cotton-wool applied. The operation was not followed by fever or dyspnœa, and the wound healed by the third day. A little friction sound could be heard over the cicatrix, and there was a circumscribed area around it where there was dullness on percussion. As in Dr. Massart's case, there was no collapse of lung and no pneumothorax, and the interference with the pleura did not occasion any pleurisy.

Borate of Soda in Paralysis Agitans.

Borate of soda, which has been found useful by various authorities in epilepsy, has been tried with remarkable success by Dr. Sacaze, *chef de clinique* in Professor Grasset's wards in Montpellier, in a case of paralysis agitans where the actual cautery, electricity, suspension, iodides, and various other forms of treatment, had proved fruitless. The drug was given at first in four-grain powders three times a day, and after a few days the dose was gradually increased to about double that quantity. An improvement was manifested by the end of the week, and after that the patient's condition continued to improve still further. After a time he was able to walk, to speak distinctly, to feed himself, and to write, none of which things he could accomplish before the borate of soda was commenced. No disagreeable effects were produced by the drug.—*London Lancet.*

Chloride of Zinc in Pulmonary Tuberculosis.

Dr. Jules Comby publishes in *L'Union Médicale*, No. 1, 1893, the results of injections of chloride of zinc in cases of pulmonary tuberculosis. All the cases were early ones, the disease being confined to the apices. The strength of solution employed varied from 1 in 50 to 1 in 20. No bad local effects were produced, nor were any unpleasant constitutional symptoms noted. Three drops were introduced by the means of a hypodermic syringe, and the dose was repeated every third or fourth day until four to six injections had been given. The results, Dr. Comby considered, were favorable in the three cases in which he tried the treatment, and he maintains that it merits further trial. He was able to demonstrate that a solution of chloride of zinc in the strength above stated could be injected into the lungs, two or three drops at a time, without any danger, and the injections might be repeated without further risk. His object is to produce a cure in the same manner as occurs in the natural arrest of the disease, namely, by development of the fibrous tissue. By his experiment on tubercular joints he claims that chloride of zinc tends to promote the formation of fibrous tissue, and thus to bring about the desired result.—*London Lancet.*

OBSTETRICS

IN CHARGE OF

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The Management of the Placenta in Delivery.

Beaucamp, of Aix-la-Chapelle (*Archiv f. Gynak*), publishes statistics of 500 labors conducted after Ahlfeld's principle of leaving the placenta two hours' time to come away. He found that the average of flooding was high. In 163 cases where flooding occurred, the placenta was discharged spontaneously 89 times before the two hours had elapsed; in 67 cases it had to be expressed. Beaucamp concludes that expression of the placenta should be performed within half an hour, as that practice involves less risk of hemorrhage, nor does Ahlfeld's practice lessen the risks of retention of membranes. This occurred in 102 out of the 500 cases. A very important piece of advice is added to these statistics. Beaucamp urges, contrary to Ahlfeld's opinion, that the midwife must stay with the patient yet two hours more after the delivery of the placenta; for in his 500 cases flooding came on in twelve cases within the first two hours after the placenta had

been expelled. Hence, if the midwife be ordered to wait two hours for the placenta, it is a grave mistake not to instruct her to stay yet two hours longer after it is born.—*British Medical Journal.*

To Prevent Lacerations of the Perineum by the Shoulder.

So much has been said regarding ruptured perineum that I feel reluctant about bringing the subject forward again; but, in the matter of prevention, I feel sure that not enough has been said in regard to tearing by the shoulder. After great care has been taken, and every precaution exercised to prevent laceration by the head, and one is congratulating himself upon having managed matters so that the patient has escaped with perhaps nothing but a little nick in the fourchette, a final terrific pain drives the lower shoulder straight through the perineal body, and perhaps makes a rupture clear through into the rectum. An internal parting of the mucous membrane of the vagina, or a slight tear, is often thus converted into an extensive laceration. The matter of preventing tears is certainly not complete without regarding the shoulder as a pretty frequent cause, and directing some attention towards preventing the continuity of the perineal body being dissolved by it. If the head has been successfully delivered, it is well to look out for the shoulder.

The indications to be met in accomplishing the safe birth of the shoulders are these:

(1) Direct the body upward into the axis of the outlet.

(2) Lessen the transverse diameter of the body of the child.

(3) Cause the exit of the body to take place slowly and gently.

When the mother is lying in the dorsal position the weight of the child's head, after it has emerged from the vagina, tends to drag the body downward and outward through the perineum, instead of outward, upward, and past it, as it should go. So the head ought to be supported, and the body directed upward in its outward passage. The transverse diameter of the body of the child may be easily lessened to a considerable extent by pressing upon the perineum and driving the upper shoulder against the pubic bone, thus doubling both shoulders over the chest.

The slow exit of the body may be brought about by pressing upon the head and retarding its motion during the pain that expels the body. But the pain that brings the body is usually a pretty violent one, and the movements of the neck prevent perfect control being obtained of the child; and, notwithstanding all these precautionary measures, the slippery parts are likely to get from under the hand, and the damage is done in spite of all efforts. After delivering the head safely, I have been disappointed in the most aggravating way by finding that the shoulder has caused a tear, and

have recently dropped into performing a manœuvre which might be called the "cork and bottle" manœuvre, as its motions are exactly like those undertaken in extracting a cork from a bottle with a corkscrew. I have found it exceedingly useful in extracting the body, after delivering the head with forceps, and in delivering the shoulders when larceration by them seems imminent, either on account of a rigid perineum, a partial parting tear of the fourchette, or the appearance of bright blood on the child's face, denoting an internal parting of the mucous membrane. It fulfils all the indications for safe delivery, and in my hands has been successful in enabling me to avoid tears by the shoulders. The manœuvre is carried out as follows: First grasp the child's head by hooking the first and second fingers around the neck, and allowing the chin to rest in the palm of the hand (the presentation being normal). Perfect control of both body and head is gained in this way, and the child's advance can be either retarded or accelerated at will. With the other hand grasp the bulging perineum and make firm pressure upward, pressing the upper shoulder against the pubic bone, and lessening the transverse diameter of the child's chest. Then delivery may be safely accomplished by pulling upward upon the head in the direction of the outlet, gently and steadily. The whole act may be accomplished in a moment, the usual interval which intervenes between delivery of the head and body allowing ample time for its performance.—*Alice MacLean Ross, M.D., of Swatow, China, in Medical News.*

Plugging the Uterus for Post-Partum Hemorrhage.

Lately a new treatment has come from Germany, namely, plugging the uterus with iodoform gauze. It is claimed that, by packing the uterus with gauze, the flow of blood from the vessels is mechanically hindered, and that the presence of the gauze provokes energetic uterine contraction. It will be evident also that the threads of the gauze furnish a surface well adapted to provoke clotting of the blood. Its advocates say that the bleeding is stopped by the powerful contraction of the uterus on the gauze plug, which is a continuously-acting stimulant. They say, further, that if the doctor has gauze with him he is saved the trouble of exact diagnosis of the cause of bleeding, for gauze plugging is the best way of stopping hemorrhage from laceration of the canal (except in case of tears of the vulva, which can easily be seen), and therefore in hemorrhage of uncertain origin the best plan is to plug both vagina and uterus. Dührssen[1] (to whom we are indebted for his mode of treatment) recommends prophylactic plugging instead of waiting for hemorrhage to become serious. It must be admitted

1 Sammlung klin. Vort., Leipzig, No. 347.

that, if the uterus is to be plugged, there is no better way of doing it than with iodoform gauze.

Any treatment of post-partum hemorrhage that is largely used as a prophylactic in slight cases will show a great percentage of lives apparently saved, for cases of dangerous post-partum hemorrhage are rare. Galabin[1] found from the Guy's statistics their frequency to be 1 in 2,040. I find the proportion in the St. Thomas Charity to be 1 in 2,172.[2] Hegar gives the number in Prussia at 1 in 3,131. Hence, when we find a large number of cases reported within a short time, the presumption is that many of them were slight. We must judge the effect of treatment of post-partum hemorrhage rather by the fewness of failures than by the number of apparent successes. Fritsch[3] has published a case in which death from atonic hemorrhage took place in spite of the plugging; and others, in which the cause of death was less clear, have also been published. The introduction of the gauze has a danger of its own. Vavra[4] relates a cases in which sudden death took place from entrance of air into a uterine vein while the gauze was being put in. This treatment, therefore, is neither certain nor safe. It is, like the injection of a styptic, unphysiological, for the uterus cannot be completely contracted while the gauze is inside it. In one reported case the uterus expelled the gauze. Surely this could hardly be called uterine atony.—*Ernest Herman in British Medical Journal.*

Uterine Hemorrhages.

Dr. Garrigues, of New York, says (*Post-Graduate*): "For acute hemorrhage from the uterus I have found no remedy superior to ergot, though in chronic hemorrhages the best remedy is gossypium (cotton root), made into a decoction by taking three heaping teaspoonfuls to one pint of water and boiling for fifteen minutes; when cold, one-third of this is to be taken three times a day. This remedy is very useful in uterine hemorrhage, even when due to fibroids or to cancer. If hemorrhage be present, or there is any tendency to it, in my opinion, iron only aggravates the condition. Apostoli's method of galvano-chemical cauterization is also very valuable. A very strong galvanic current is applied to the uterus with the positive pole.

1 Midwifery, 1st edition, p. 687.
2 Reports, 1871-89.
3 Duhrssen, op. cit.
4 Cent. fur Gyn., 1890, S. 353.

GYNECOLOGY

IN CHARGE OF

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Sub-serous Uterine Hæmatocele.

A case of sub-serous hæmatocele in a girl eleven years old, simulating acute appendicitis. Operation. Recovery.

A child was seen by Mr. Barker with symptoms simulating those of acute appendicitis. He decided to operate, and opened the abdomen over the cæcum. He found the cæcum and vermiform appendix in a healthy condition; some brownish serum flowed from the direction of the pelvis, and, on passing his fingers down into this region, he found that the right fallopian tube and ovary were swollen and twisted, and when brought into view seemed to be quite black from blood effused under the serous coats. On tracing this effusion he found that he had to deal with a large sub-serous hæmatocele, occupying the space behind the uterus. The tumor almost filled the pelvis. He had been able to detect a swelling per rectum before the operation. The swelling was smooth on the surface and inflamed. He considered that as the case was undoubtedly one of hæmatocele, it was better not to make any attempt to remove the blood, but to allow it to remain for future absorption. The serum was sponged out and the abdomen closed. The child recovered.

Thirty-five days after, the tumor, felt per rectum, had diminished in size. The child was watched for a couple of months subsequently, and there were no returns of the symptoms. The case was recorded on account of the early age of the girl.—*Medical Press.*

Diaphragmatic Hernia in which Death was caused by Vomiting.

Drs. Hale and Goodhart reported a case of a man, aged forty-nine, who complained of water-brash, with occasional vomiting. No organic disease could be detected. He experienced pain at the ensiform cartilage, and suffered from obstinate constipation. In spite of careful dieting, vomiting became more frequent and profuse and fœtid in character. Death occurred apparently from exhaustion. Washing out the stomach gave only temporary relief. At the *post-mortem* examination all the organs were found to be healthy, but the stomach and part of the colon were found lying in the left thorax, having passed through a smooth, large opening in the diaphragm of the size of a closed fist.

Dr. Hale mentioned another case that he saw at St. Bartholomew's Hospital. The opening in the diaphragm was the result of traumatism, and the tympanitic note that was observed gave rise to a diagnosis of pneumothorax, for which puncture was performed.—*Medical Press.*

[Many of our readers may remember the well-known case of Dane, who was shot on Bloor street by burglars, and who died from diaphragmatic hernia that occurred through the opening made by the bullet in the diaphragm a year or so before. In his case a knuckle of intestine was found protruding through the diaphragm, and he died from intestinal obstruction.—J.F.W.R.]

"The Dream of the Ovary."

The *New York Medical Record* publishes *a new work on abdominal surgery* entitled "The Dream of the Ovary."

We cannot commend it to the profession in general, nor to any particular branch of it. It is lacking in dignity; it is probably funny; fortunately, it is short. We do not consider it wise to extract it, because those who are anxious to read it can readily do so by referring to the journal in which it was originally published. Such literature can do no good, and may at any time be a source of great embarrassment to a surgical defendant in a law court. It is always difficult and impossible to strike the exact mean between two extreme procedures without finding out what the extremes are. Thank heaven, such literature will not prevent the progress of surgical science. It is simply like the fly on the window-pane, that needs only to be brushed aside, and that lives only for a short season.

Gumma of the Liver.

A case of gumma of the liver, with ascites and symptoms resembling malignant disease. Cured.

A case is reported from the clinical records of the Edinburgh Royal Infirmary, by Mr. A. Stoddart Walker, of a man aged fifty-three with the following history: Patient looked poorly developed, had pinched features, and a slightly icteric hue; had been a moderate drinker. Patient did not own to any history of syphilis. He first noticed a pain in the region of the liver three years before this; was only felt when he exerted himself, and did not incapacitate him from work. He noticed at this time blotches of the skin, itchy and red after rubbing. Aug. 1st, 1891, admitted to the Royal Infirmary on account of the ascites and dropsy of the legs; complained of a painful spot at the edge of ribs. Discharged convalescent, albuminuria, ascites, and dropsy having disappeared.

On April 4th, 1892, readmitted on account of the reappearance of the ascites. Has occasional attacks of vomiting, but complained of these long before the present illness came on. Inspection of the abdomen showed a distinct fullness. Abdominal walls tense and distended. Dilated veins seen coursing over the abdominal parietes. In the epigastric and right hypochondriac regions a large, smooth, uneven mass is to be felt. Ascites undoubtedly present. The tumor is continuous with the liver dullness, and extends about two and one-half inches below the costal margin. Heart normal; arterial walls thickened; both legs are much swollen. A provisional diagnosis of malignant disease of the liver was made. Patient did not improve until May 10th. The use of iodide of potassium was suggested, though from the patient's denial syphilis could not be absolutely made out. The size of the tumor rapidly lessened, and the pain and ascites gradually disappeared; patient gained weight; dropsy of the legs disappeared; discharged in July looking well. The tumor at this time had almost disappeared.

An Interesting Case of Gallstones.

A very interesting case of gallstones is recorded in the *Maritime Medical News* by Dr. Morrison:

"The patient showed all signs of obstruction of the common bile duct. On account of the previous history, this obstruction was diagnosed as due to impaction of a gallstone. The stools were clay-colored, the urine was scanty and high-colored, and contained bile, and the patient became jaundiced. The jaundice continued unabated for three weeks. The hemorrhagic diathesis due to cholemia set in, and showed itself by hemorrhage from the mouth and throat. Considerable mucus was found with the fæces. This latter may perhaps have been due to the inflammation gluing the intestine to the gall-bladder or some part of the biliary apparatus. The patient evidently went as near to death's door as possible, and was probably snatched from the verge of the grave by a natural anastomosis due to ulceration of the gallstones into the intestine. The patient passed fifteen calculi in one stool, and on the following day two calculi were found. Bile immediately reappeared in the fæces, disappeared from the urine, and the patient's jaundice disappeared."

The gallstones in this case may have passed by the natural channel without ulceration; but, if so, it would certainly be a very remarkable fact to find fifteen large gallstones in the one stool.

SURGERY

IN CHARGE OF

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THE INDICATIONS FOR THORACOCENTESIS.

Professor Potain maintains, in opposition to the teachings of Verneuil, that tapping the chest converts serous into purulent exudations. Empyema, according to Potain, is not more frequent than formerly, but is more often properly diagnosed. Four things are to be considered in thoracocentesis (*International Journal of Surgery*). First, the presence of functional disturbances. Second, the quantity of exuded fluid. Third, the duration of the exudation. Fourth, the nature of the fluid.

Functional Disturbances. Considerable dyspnœa is an indication for thoracocentesis, because it usually points to the existence of a large quantity of fluid. It may, however, be due to other causes, such as capillary bronchitis, miliary tuberculosis, etc. In such cases the performance of thoracocentesis must hinge upon the question whether the dyspnœa is due to the exudation or the accompanying complications. Dyspnœa, moreover, is an unreliable symptom; it may be completely absent, even when the quantity of fluid is excessive. The same applies to cyanosis. As regards the tendency to syncope, still less reliance can be placed upon this symptom, because it frequently appears too late to serve as a danger-signal. In general, functional disturbances are unreliable signs; but when they occur in a case where positive indications for operative interference exist, they should impel us to make haste. Finally, in exceptional cases, if a careful study of the existing conditions shows that the disturbances are actually the result of the exudation, they may serve as indications for thoracocentesis, even if for other reasons the operation had not been attempted.

Quantity of fluid. A profuse accumulation of fluid demands thoracocentesis for two reasons: first, because the danger of syncope or asphyxia in general is in direct relation to the quantity of fluid; second, because the long time required for absorption to take place increases the danger. As long as the fluid does not reach to the level of the clavicles, the quantity of exudation need not enter into the question of an operation. If, notwithstanding that the level of the fluid extends to the clavicle, there is no displacement of the diaphragm or mediastinum, no marked distention of the chest, and the lung occupies a considerable space in the thoracic cavity, the operation may be postponed. If, however, the lung is entirely compressed,

especially when the thoracic cavity is distended, an immediate operation is indicated. The age of the fluid may become an indication for thoracocentesis even when the quantity of exudation in the pleura is moderate or slight. The exudation reaccumulates after evacuation, if it is recent; on the other hand, late operation is sometimes attended with serious dangers. The fluid should therefore be removed if no hope exists that it may be absorbed by medicinal treatment. Authors who have written upon this subject have designated three weeks as the limit. It is a matter of difficulty, however, to positively determine the age of an exudation, inasmuch as the development of the effusion does not always correspond with the beginning of the disease. The nature of the fluid can be determined with certainty by puncture. Without resort to this we deal only with presumptions, but these are sufficient to indicate a puncture, which, according to the case, may be simply exploratory, or at the same time serve to evacuate the fluid. After thoracocentesis has been decided upon, it must be determined to what extent the contents of the pleura are to be evacuated. In the majority of cases the complete emptying of the pleural cavity is attended with many grave dangers. On the other hand, the evacuation of a small amount of fluid may be useless if a large exudation be present. As a rule, about one-half of the fluid should be removed.—*Medical Record.*

Regarding Antiseptic Surgery.

In an editorial in the *Medical Press and Circular* of Feb. 8th, 1893, called "Reversions in Antiseptic Surgery," we find a criticism of the last utterances of Sir Joseph Lister in his post-graduate lectures. The part in which the medical profession will be chiefly interested is that regarding the treatment of sponges required to render them fit for surgical purposes.

Sir Joseph Lister's utterances in this respect are spoken of as follows: "When, however, we come to his further teaching as to the use of sponges, the revolution is so complete that at first one is lost in astonishment. The mere mention of sponges in connection with surgical operations will appear strange to many modern surgeons who have entirely discarded their use, and regard them as vehicles for the dissemination, not only of bacteria, but possibly also of cancer germs and other obscure evils. We have been taught that there was no more fertile source of mischief in the old 'pre-antiseptic era,' so to speak, than the convenient but deadly sponge, in whose recesses, charged with nutrient matter, hosts of pathogenic bacteria might thrive and multiply; so that the majority of surgeons hailed with pleasure the practical advances which directed them to throw away their sponges, and to use instead a sterilized pad of absorbent wool, or other convenient material. It is beyond question that no substitute yet intro-

duced is able to absorb blood with the ease and readiness of a sponge, bu even that objection is much lessened by the practise of bloodless methods, of which Professor Lister has been so consistent an advocate. That distinguished authority not only uses sponges, but treats them in a way calcu lated to make the hair of the modern surgeon, trained, as he is, in the gos pel of absolute cleanliness, to stand on end. He tells us that in private practice he purifies his sponges in a somewhat rough-and-ready manner. He simply throws them, after an operation, into a tank of water, where he allows them to putrefy. He then washes them in water until the fibrin, liquefied by putrefaction, no longer gives a red color to the washings, whereupon he puts them away in a one to twenty solution of carbolic acid. In his Edinburgh practice he tells us he has even gone further, and used them for operations before the water that came away from the sponges was completely freed from the red color, and has applied such a sponge to a wound directly for the purpose of applying elastic pressure and for absorbing blood. These statements are most suggestive and important, coming, as they do, from a surgeon who is no less conscientious in his treatment than he is exact in his observations and logical in his deductions. It may be questioned, however, how far it would be advisable for the profession generally to adopt such a 'rough-and-ready' method for cleansing sponges or indeed, for that matter, to return at all to the use of sponges for surgical purposes."

Hydrocele.

Dr. W. Joseph Hearn, in the *Virginia Medical Monthly*, suggests the following treatment for this condition: He cuts down upon the sac, and, catching it, makes a hole sufficiently large to permit the introduction of a mop of cotton; after the serum is drawn out he dries the cavity by means of sterile cotton, and then swabs it out with deliquescent carbolic acid; a small piece of bichloride gauze is introduced in the opening in the sac in order to facilitate drainage, and an antiseptic dressing is applied. At the end of twenty-four hours the capillary drain is removed, and the case goes on to an uninterrupted recovery. The drainage prevents the accumulation of the inflammatory products; and its subsequent solidification permits of and favors complete collapse of the sac, diminishes the infiltration of the scrotal connective tissues by favoring the removal of infiltration serum, which must of necessity develop during the first twenty-four to thirty-six hours through the drainage path. This operation, in Dr. Hearn's hands, has proven successful, and is, I believe, from a scientific standpoint, the most valuable operation which we possess. An essential feature, of course is thorough and efficient antisepsis.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

EDMUND E. KING, M.D. Tor., L.R.C.P. Lond.

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The Effect of Incomplete Sexual Intercourse upon the Male.

Dr. G. E. Brewer, in the *Journal of Cutaneous and Genito-Urinary Diseases*, quoting from Dr. A. Peyers, *Ein Studie aus der Praxis*, says: The untoward effect of the interrupted or incomplete sexual act in the production or aggravation of a condition of neurasthenia is generally recognized.

The chief symptoms of this condition are insomnia, restlessness, mental depression, headache, partial or complete syncope, dyspepsia, diminution of the sexual appetite, and often absolute impotence.

Examination reveals the presence of a hypersensitive urethra, especially in the prostatic region, with marked hyperæmia of the mucous membrane. The prostate may become enlarged.

In recent cases the prognosis is good if the cause can be removed; in more advanced cases, and where marked sexual weakness exists from congenital or other causes, the outlook is more grave.

The treatment should consist in measures undertaken to overcome the deep urethral sensitiveness, and to improve the general health.

[I have had several cases under treatment, during the past year, of neurasthenia from this cause—diminution of the sexual appetite, partial impotence, pre-emission, and a gleety discharge being the main symptoms complained of. The incompleteness of the act is due, in most of these cases, to that most pernicious habit of "withdrawal." In others similar nervous results are due to excessive fondling, without any attempt at intercourse. Tonics, strychnia, rest, and local application, together with cessation of the bad habits, have effected a cure.—E.E.K.]

Deviations of the Ureters from the Normal.

Poirier, in *Gazzetta degli Ospitali*, reports that a double ureter is by no means a rarity, he having found by injecting a large number of ureters that it occurred eight times in 220 subjects. He also observed that fluid injected into the ureters passes into the renal vein. This is not due to putrefaction of the corpse, although he first noticed it in a cadaver about twenty-four hours after death. Yet he confirmed it by experiments on liv-

ing dogs. Whether it be a physiological phenomenon or due to rupture, the writer will not attempt to decide.

[I have found one case of the exceedingly rare occurrence of four complete ureters, *i.e.*, double on each side, with four urethral openings in the bladder—once double complete on one side, and twice the ureter was double for some distance (not measured) from the kidney, but united before its entrance into the bladder. All of these cases occurred in one institution, and the total number of autopsies did not exceed thirty.—E.E.K.]

Experimental Research in the Innervation of the Bladder.

Dr. Von Zeissl, in *Ann. d. Mal. d'Org. Genito-Urin.*, after careful and protracted research, has reached the following conclusions in regard to the innervation of the bladder:

(1) The erector nerve (Eckard) is the motor nerve of the muscular coat, and opens the sphincter.

(2) The opening of the sphincter of the bladder takes place independently of the muscular coat.

(3) The hypogastric nerves close the vesical orifice. The motor action of these nerves on the bladder is feeble.

(4) The hypogastric nerves arrest the spontaneous movements of the bladder, as can occasionally be observed.

(5) The hypogastric and erector nerves appear to obey the law of crossed innervation formulated by Von Basch. According to this law, the nerve-trunks which control the motor nerves of a system of muscles also innervate the antagonistic muscular fibres contained in the same system.

(6) The erector nerve contains, therefore, motor fibres for the longitudinal muscular fibres of the bladder and inhibitory fibres for the sphincter, or for the circular muscular fibres.

(7) The hypogastric nerves contain motor fibres for the sphincter and inhibitory fibres for the muscular coat of the bladder.—*Inter. Med. Mag.*

Myoma of the Female Bladder.

Myoma of the bladder is an uncommon affection; in women it is very rare indeed. Virchow's opinion that such tumors are always connected with the prostate is a sufficient proof of this assertion.

Case. M.S., æt. 40, unmarried, was sent into the Rotunda Hospital on June 22nd last. She complained of passing blood in her urine, which had occurred during the two previous years, frequent micturition, and pain when walking. On examination it was found that the urine drawn off with a catheter contained blood, and that the last few drops consisted almost

entirely of red blood. Bimanual examination suggested the propriety of dilating the urethra and exploring the bladder with the finger, and thus a polypus somewhat larger than a billiard ball and attached to the fundus of the bladder was discovered. This tumor being too large to remove per urethram, the vulva was laid open by the lateral incisions and the vesico-vaginal septum divided in the middle line. An écraseur having been introduced through the urethra, the wire was easily adjusted by means of a finger passed through the opening in the vesico-vaginal septum, and, the pedicle having been divided, the growth was removed. The fistula and incisions into the vulva were closed by suture and healed by first intention.

In a monograph upon diseases of the bladder (*Deutsche Chirurgie*) the late Prof. Ultzman alludes to a case, which I have not been able to trace farther, in which A. R. Jackson found a myoma as large as his fist in the bladder of a woman which, after removal, presented the same structure as a uterine myoma.—*W. J. Shrigley, M.D., in Medical Press.*

Phimosis and Circumcision.

Dr. Horace G. Wetherell concludes an article on this subject (*University Medical Magazine*) with the following:

(1) That each male child should be examined at birth for obstructive phimosis when we examine for imperforate anus.

(2) That the prepuce should be retracted fully, and all adhesions to the glans broken up, all smegma be removed, and the nurse be instructed to retract, wash, and anoint the parts daily for two weeks, and once each week thereafter.

(3) That a long and redundant foreskin, though freely retractable, may be a cause of local and reflex diseases, may occasion, or at least aggregate, an undue sexual appetite, and so predispose to masturbation, sexual excesses, and ultimately to venereal diseases.

(4) That such cases should be circumcised, as should the cases where the foreskin is not retractable.

(5) That routine circumcision of all male infants is to be condemned. That the prepuce plays an important part in the human economy, and should not be amputated except for good and sufficient reasons.

(6) The unhappy experience of the fatal case cited demonstrates that this little operation may be attended by grave dangers, and should be undertaken with this risk in view, and only after we are assured that the parents' families are not bleeders.

(7) That infants may endure a copious hemorrhage far better than we have heretofore supposed.

[We agree with these conclusions, but think that the second should be

more clearly defined, *if these adhesions are slight:* but in cases where the adhesion is almost or entirely complete, then circumcision should be done. The constant drawing backward of a prepuce with an exceedingly small opening, even after the adhesions have been broken down, is painful and irritating; the foreskin should be amputated.—E.E.K.]

PEDIATRICS

IN CHARGE OF

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Stomatitis Due to the Irritation of Epithelial Pearls in the Mouths of New-born Children.

Henry J. Garrigues, in the *Medical News*, says: The details of two cases are given. In the first, the ulceration originated in an epithelial pearl; in the second, in the weak spot covering the hamular process of the sphenoid. Fifty-two babies were examined, and nearly all had one or more white nodules on the palate at birth. Of these, twenty-seven had their mouths carefully washed, and twelve developed a more or less sore mouth, the ulceration always beginning at the epithelial pearls, with the exception of the one case of Beduar's aphthæ, where the ulceration was over the hamular process of the sphenoid. In the last twenty-five cases no washing out was done, and of these babies not a single one got a sore mouth. In a total of fifty-seven cases which were examined—fifty-two in hospital and five in private practice—fifty-three, or ninety-three per cent., had congenital epithelial pearls.

These epithelial pearls are small, white, globular tumors, varying in size from that of a pin head to that of a millet seed, situated in the raphe of the palate, preferably at the juncture of the hard and soft palate. Sometimes there is only one; in other cases, from two to five. The outer surface is almost cartilaginous, while the interior is filled with a softer mass. The whole mass is composed of epithelial cells like those of the mucous membrane of the mouth.

As to diagnosis, they are easily distinguished by their definite locality and their regular, round, globular shape. Beduar's ulcer always develops laterally and usually bilaterally on the place corresponding to the hamular process of the sphenoid. Sprue forms small, irregular, less elevated white spots, which are never congenital, and are found in any part of the buccal

membrane, without any symmetrical distribution. In regard to treatment, we must remember that the epithelial pearls, being physiologic formations, destined to a spontaneous disappearance, do not call for any treatment, and that all we have to do is not to injure them.

Scorbutus in Infancy.

McManus, James (*Med. Rec.*, 1892, xlii., 575), says: He was called in September, 1890, to a child, W. M——, aged twenty months, bottle-fed, who had been having a diarrhœa for some weeks. The child had only a few teeth, and there were besides other marked evidences of rickets. The diarrhœic stools were of a dark, grumous character; there were ecchymotic spots over the lower extremities, and on the right leg, midway between the knee and the ankle, there was apparently a bruise, which was tender. The mother denied that the child had received a bruise.

The gums were swollen, and bled readily on slight pressure. The child had been fed upon condensed milk alone, which it devoured ravenously, and occasionally vomited. He gave it calomel, bismuth, and lactopeptine; ordered fresh cow's milk, beef tea, orange juice, and lemonade, and at his third visit, one week later, all the scorbutic symptoms had disappeared. After that it was put upon appropriate treatment for rickets, which now, happily, it has recovered from.—*Archives of Pediatrics.*

Diphtheria and Croup.

The science of bacteriology has already opened a floodway of light upon many obscure problems in the etiology of disease; and evidence is not wanting as to the practical application of the information obtained from this source. While perhaps not yet absolutely proved, there is abundant testimony, clinical and otherwise, pointing to the identity of the two processes, diphtheria and croup. Partly in consequence of early teaching, partly because the evidence is not conclusive, there is still a minority that maintains the individuality of the two affections. One of the most conclusive clinical arguments of their identity is afforded by the fact that in some of the large continental hospitals cases of croup and diphtheria are placed side by side in the same ward, and the cases of croup do not become infected; while it is not rare for diphtheria to develop in a family in which an apparent case of croup has been present.

The almost general acceptance of the dictum of identity is indicated by the tendency to treat cases of croup as though they were diphtheritic, and the instructions of boards of health that cases of croup be reported. Fraenkel (*Deutsche medicin. Wochenschr.*, No. 24, 1892, p. 564) has added an opportune and valuable contribution to the controversy. The oppor-

tunity was afforded him of holding autopsies in four cases, all clinically typical instances of croup. In none were the subjective or objective evidences of pharyngeal involvement present. All presented hoarseness and marked difficulty in breathing. In two, tracheotomy was performed. The autopsies confirmed the freedom of the pharyngeal structures. In one case the membrane was situated below the glottis. Examination of the membrane present in each case disclosed the presence of the bacillus of diphtheria described by Klebs and Leoffler, the identity of which was absolutely assured by the presence of morphologic appearances, by its behavior in culture, and by its pathogenicity to animals. It is true that the number of cases reported is small, but the evidence adduced is positive and conclusive, and not to be controverted by any negative evidence.—*Medical News.*

The Cry in the Diagnosis of Disease in Children.

The cry of children, according to Dr. E. C. Hill (*Denver Med. Times*), in pneumonia and capillary bronchitis is moderate and peevish and muffled, as if the door were shut between child and hearer. The cry of croup is hoarse, brassy and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus and tubercular peritonitis are manifested by moaning and wailing. Obstinate, passionate, and long-continued crying tells of earache, thirst, hunger, original meanness, or the pricking of a pin. The pleuritic is louder and shriller than the pneumonic, and is evoked by moving the child or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiratory part of the cry grows weaker toward the fatal end of all diseases, and the absence of crying during disease is often of graver import than its presence, showing complete exhaustion and loss of power. Loud screaming sometimes tells of renal gravel.

Chorea.

Dr. Sewening records a case of chorea in which marvellous results were produced by iodide of potassium. The patient (a girl) was ten years old, and had suffered from the affection twelve months, all modes of treatment proving futile. He prescribed a solution (one to sixty) of the salt named in distilled water, one tablespoonful being taken three times a day. Immediately the medicine was begun improvemeut was noted, and before the patient had taken two drachms the chorea had vanished, leaving no trace behind.—*Prov. Medical Journal.*

PATHOLOGY

IN CHARGE OF

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Human and Fowl Tuberculosis.

MM. Strauss and Gamaleia have indisputably demonstrated, by cultures and inoculations, the difference between the bacilli causing avian and those causing mammalian tuberculosis. The characteristic lesions produced by the inoculation of cultures on animals were even more striking than the differences in the cultures themselves. Whether the method adopted was subcutaneous, intraperitoneal, intrapulmonic, or intravenous, they found invariably that the animals inoculated with human bacilli presented at death a general eruption of macroscopically visible tubercles, hypertrophied caseous glands, and an enlarged yellow spleen; but if the bacilli were of an avian source, there was no eruption of macroscopically visible tubercles: the bacilli were occasionally found in the organs, but the most common lesion was a swollen, red spleen. They experimented similarly on rabbits, and found that the usual pathological appearance in those animals injected with human bacilli was an eruption of tubercles, particularly abundant in the lungs, while the animals treated with fowl bacilli likewise succumbed, but presented no tubercles visible to the naked eye. The important question rises: "Are men susceptible to fowl tubercle bacilli?" So far as P. is aware, in no case has a culture presenting features identical with those of fowl tuberculosis been obtained from a human subject, but a sufficient number of experiments have probably not yet been made to justify a reply in the negative.

From the distribution of the anatomical lesions in fowl, it seems probable that infection occurs through the intestinal rather than the respiratory tract. Examination of the mucous surface of the former in a fowl which has succumbed to an attack of tuberculosis discloses numerous ulcers with infiltrated edges, while nodules of varying size are often found in or attached to the intestinal wall. These sometimes undergo caseous degeneration, discharge their contents into the tube, and produce a pouch or diverticulum. The appearance of the liver is even more characteristic. Scattered over its surface are multiple whitish-yellow patches, differing considerably in size, extending for various depths into the substance of the liver, and apparently as numerous in the deep as in the superficial parts. Jaundice is an exceedingly rare complication, however. The

spleen contains similar nodules; the remaining abdominal viscera are, as a rule, free from disease. In the preparation of the fowl for the market, the internal organs are sometimes found to be in the above condition. This does not, in the opinion of those engaged in the work of preparation, render the fowl in any way unfit for food. The safety of this practice may possibly be questioned.—*Dublin Jour. Med. Science.*

THE AMŒBA COLI: ITS RELATION TO DYSENTERY AND TROPICAL SUPPURATIVE HEPATITIS.

In the *Indian Medical Gazette* for November, 1892, Surgeon-Captain Patrick Hehir, of Hyderabad, gives the results of some of his studies on the organisms found in tropical dysentery and hepatic abscess. He is particularly fortunate in being located in a region in which these affections are very prevalent. As causes of the epidemic of dysentery which he observed, he mentions (1) the amœba coli; (2) malaria; (3) exposure to sudden vicissitudes of temperature; (4) putrefaction of animal matter, especially that of human ordure; (5) infection from other cases of dysentery; (6) mechanical and other engorgement; (7) *bacillus dysentericus.* In the evacuation of dysenteric patients the amœba coli was found frequently, but not invariably; and it was also found in other bowel affections, as the mucous enteritis of infants, simple diarrhœa, and in some cases of catarrhal inflammation of the rectum, due to engorgement. The *bacillus dysentericus* found by Hehir, and considered pathogenic, was found associated with the amœba coli, and is described as a short, straight bacillus, usually of a length about equal to one-third the diameter of a red blood corpuscle, with rounded ends sometimes jointed, rarely cured. These bacilli were sometimes present in vast numbers. They were sometimes found in the substance of amœba coli, and when lying in the vacuoles of the amœba they could be easily seen. They stained well with methyl blue. No culture experiments with this microbe are recorded. These bacilli were often found in the pus of liver abscesses; but in four cases in which he was able to demonstrate the amœba coli in aspirated peritoneal fluid, Hehir failed to find his *bacillus dysentericus.*

Since he has succeeded in demonstrating the amœba coli in the peritoneal effusion of suppurative hepatitis following dysentery, Hehir is strongly in favor of the views of Councilman, who maintains that one mode of liver infection from dysentery is brought about by the amœba passing through the walls of the diseased bowel, and across the peritoneal cavity to the liver. In fact, he believes that this direct infection is of chief importance in the production of liver abscess of amœbic dysentery, rather than the infection by means of emboli along the blood or lymph streams.—*Editor, in Journal American Medical Association.*

The Etiology of Primary Laryngeal Croup.

Fraenkel has investigated four typical cases of primary laryngeal croup, in order, if possible, to settle the question of its causation. The cases occurred in the General Hospital, Hamburg.

Case 1. A youth was suddenly attacked with dyspnœa. At the time of the attack there was no affection of the buccal cavity, although he had complained of sore throat about two weeks before. On the third day of the attack he was taken into the hospital. Tracheotomy was performed, and he died the next night.

Case 2. A man aged forty-six years, liver cirrhotic, was attacked with hoarseness and dyspnœa; died on the seventh day; no tracheotomy.

Case 3. A boy aged nine years; hoarseness and dypnoea for two days; tracheotomy; death.

Case 4. A child of two years of age; death.

In all these cases the autopsy revealed the fact that a firm membranous cast had formed, extending from the larynx downwards for a variable distance.

In this membrane the bacilli of diphtheria were present mostly in pure growth, *i.e.*, not mixed with other germs. Cultures were made and tested for virulence; a modification of Loeffler's method employed. The buccal cavity was free from any infection.

Fraenkel concludes that the instances were cases of so-called *idiopathic* laryngeal croup, and that such cases are etiologically identical with true diphtheria, both being due to Loeffler's bacillus.—*Centralb. f. Bakt. u. Parasit.*, Dec. 28, 1892.—[J.L.]

Frisch on Urine Deposits.

At the last meeting of the Gesellschaft der Aerzte, Prof. Frisch showed a few microscopic preparations of urine which he had sealed after a method of his own for preserving urine sediments, as urates, cystine, crystals of phosphate of lime, indigo crystals, etc., which are in no way affected by keeping any length of time. The specimen is placed on a slide in a thin layer and dried, not completely; after this mixed with gelatine and glycerine—one part of gelatine, four parts of glycerine, and two parts of water, which is often used for making microtomic sections. This mixture becomes hard and cold, and fluid with slight heating. The advantage he claims for this method is that it has little refractive power, and is almost transparent, in which the colorless sediment can be easily distinguished; it mixes readily with water, whereby the sediment can be retained in a crystalline form as well as the organic deposit.—*Eng. Med. Press.*

Editorials.

OUR CHOLERA ISSUE.

WE are pleased to know that our last issue of THE PRACTITIONER was highly appreciated. We regret that a couple of mistakes were made, which, although not of much interest to ordinary readers, might materially affect our relationship with valuable exchanges. According to our announcement in the first editorial, we published a number of selected articles, written by men well and favorably known to the medical world; but it unfortunately happened that we did not, in all cases, give due credit to the journals to which we were indebted. We desire now to supply omissions and correct mistakes.

The articles on "Bacteriology of Cholera and Methods of Disinfection," and "Hygiene of Cholera," were read by Drs. Geo. M. Sternberg and A. L. Gihon, respectively, at a special meeting of the Medical Society of the County of Kings, held September 6th, 1892, and published in a special edition of the *Brooklyn Medical Journal*, September 10th, 1892. The following articles: "Prophylactic Measures against Cholera," by Dr. A. C. Abbott, of Philadelphia; "Cholera and its Migrations," by Dr. Henry Hartshorn, of Philadelphia; and "The Treatment of Cholera," by Dr. Roberts Bartholow, of Philadelphia, were originally published in the *Philadelphia Medical News*. The article on "A Clinical Study of Eleven Cases of Asiatic Cholera treated by Hypodermoclysis and Enteroclysis," by Dr. Judson Daland, first appeared in the *University Medical Magazine*, of Philadelphia. In our table of contents, "Original Communications" should have been "Selected Articles."

THE MEDICAL HEALTH OFFICER OF TORONTO.

THE election of Dr. Charles Sheard to the position of Medical Health Officer of Toronto has given general satisfaction to the profession of this city. So far as we can learn, we have reason to believe that the general public heartily approve of the council's choice. Dr. Sheard possesses a happy combination of qualities which make him well fitted for his new office. He has high talents, common sense, good judgment, scientific knowledge, and rare executive ability. Being a man of means, and the possessor of a large amount of city property, he is in a position to take a

perfectly independent stand, and, at the same time, to have an eye to economy in all his acts.

He has already thrown into his work his characteristic energy, and is working early and late to get his very important department in good working order. The members of the profession recognize with pleasure that he assumes no theatrical attitudes, and puts forth no efforts to advertise his own doings, or exaggerate the importance of any epidemics with which he vigorously attempts to cope.

Toronto is a healthy city, with a low death rate. Sensational reports respecting certain epidemics have done much harm in the past, and are not likely to be spread in the future under the present régime. We have no desire to see the public filled with a sense of security not founded on facts; but we decidedly object to the creation of needless alarm. The Health Department will have plenty to do in fighting against preventable diseases; but quiet, persistent work—not talk—is what we want. Dr. Sheard appears to have a keen appreciation of the position of things, and the grave responsibility he assumes in taking charge of the Health Office. We sincerely hope he will have the unanimous support of the profession in his arduous undertaking. Such support will greatly assist him in gaining and retaining the confidence of the general public. Without any reference to other admirable men whose names have recently been mentioned in connection with this office, we venture to predict that Dr. Sheard will be found the right man in the right place.

THE ONTARIO MEDICAL ACT.

THE profession have heard more about the Ontario Medical Act during the last year and a half than they did during all the former years since the establishment of the Medical Council of Ontario in 1866. The Medical Defence Association has certainly done good in more ways than one. It has induced a large number of physicians, who formerly took little or no interest in the proceedings of our medical parliament, to study the matters which have recently been so thoroughly ventilated. It has also brought forth from the council many explanations which have thrown considerable light upon many vexed questions. The attacks on the council have been remarkably bitter; the replies have been slightly heated, and somewhat marred by personalities.

We sincerely trust that the leaders on both sides, in the coming discussions, will be conciliatory and dignified. We hope their interest and aim are similar. They certainly should be. It is exceedingly important that our Medical Council be not destroyed. With all its imperfections, it has

done much for our profession and for higher medical education, and is likely to do more in the future. The following petition, which has been largely signed, needs no explanations:

TO THE HONORABLE THE PREMIER, THE GOVERNMENT, AND THE LEGISLATIVE ASSEMBLY OF ONTARIO:

We, the undersigned members of the College of Physicians and Surgeons of Ontario, have inferred from statements in the public press that certain practitioners of medicine, under the name of the Medical Defence Association, intend this coming session to ask for legislation whereby changes radical and questionable in character would be effected in the constitution of the incorporated profession. The medical electorate at large is the best jury in the premises; all matters in dispute can be pronounced upon at the next council election, which takes place next year, and in which every medical practitioner will have full and free exercise of the franchise. Therefore, believing that all differences of opinion can best be settled by ourselves, we pray your honorable body that no requests for legislation be entertained other than those made by, or through, our accredited representatives, the Medical Council.

We think the suggestion to allow the decision of certain questions to depend on the results of the next elections is a good one. If the council will accept the most important plank of the "Defence" platform, requiring an increased representation from the profession, the result of an appeal to the electorate ought to afford the most satisfactory solution of the various difficulties that have arisen.

DELAY IS SUICIDAL.

THE actions of the city council, during the past few years, prove that we are a slow people to grasp the main idea; or that we do not retain the grasp after having made it. It takes about a decade to thoroughly arouse the powers that be to a sense of an impending calamity. We strain at a gnat, but goodness knows what we swallow. We prefer not to name it—anything from microbes to Toronto Bay eels. Every fresh examination reveals new wonders. There are three gigantic questions that must be settled at once, if the health of this fair city is to be maintained at its present standard: the water supply; the ventilation of the sewers; and the construction of a trunk sewer, which carries with it the disposal of the sewage. The civic government haggle and squabble about the paying of a living salary to a good man, a man thorough in his profession, one who could be independent of the cliques and wire-pullers of the council. What is a salary of $5000 or $10,000 a year paid to a thoroughly competent and reliable engineer compared with the health of the community? The difference in salary would be almost made up from the reduction of pauper patients kept in the hospitals, at the city's expense, by decreasing the pre-

ventable diseases, such as typhoid, diphtheria, etc. Would any large city of the United States or Great Britain allow a few paltry dollars to stand in the way of these absolutely necessary public works? We say positively, "No"; then why should Toronto? One man can only accomplish a certain amount of work in a day. No man can do two men's work and do it in a satisfactory manner. No man can serve two masters and give satisfaction to both, and especially with such wide differences of opinion as are held by the members of the city council, on the one hand, and the citizens on the other. How can we expect a city engineer to solve such intricate problems as the water supply, trunk sewer, Ashbridge Bay reclamation, and ventilating of the sewers in a reasonably short time if he is to be at the beck and call of every alderman who wants a culvert laid, some paving relaid, or any of the minor details of civic government explained? It is an undeniable fact that the water supply of a city is the important factor in that city's health; yet from the scandalous manner in which the civic authorities delay and waste valuable time one would think they were discussing some quite unnecessary improvement. The reclamation of Ashbridge's Bay is an important and necessary undertaking. Yet its importance is hardly to be considered when compared with the greater need of pure water. We have had a larger percentage of zymotic disease than than we should have had simply from this fact. The health reports from the City Hall prove that there is no section of the city so healthy as that over the Don. When typhoid was most prevalent, the majority of the cases were west of Yonge street. It is high time that the authorities should be up and doing. Place the city engineer in a fair position. Give him a chance with these problems; and if one man is not enough then, regardless of the salary required, engage the best available expert and have the water supply and sanitary system of our city made the best that money and brains combined will produce, and that at once.

The loss which the city will sustain in health and life by continuing our present suicidal inactivity in these matters cannot be estimated by dollars.

SPECIAL COURSE IN BACTERIOLOGY.

A SPECIAL course in bacteriology was given last May in the Biological Department of the University of Toronto by Professor Ramsay Wright. A fair number of practitioners took advantage of this excellent opportunity, and all such were more than pleased. We are glad to be able to say that Professor Wright intends to give a second course during next month (May) similar to that of last year. A lecture will be delivered each morning—probably at nine o'clock—to be followed by practical work in the laboratory for several hours.

The course will cover the life history of the chief pathogenic forms, the experimental methods employed in studying these, and the applications of bacteriology to diagnosis. Each member of the class will have the use of a microscope (including homogeneous oil immersion lens) and the other appliances necessary for the work. The requisite experimental animals will also be furnished.

The fee for the whole practical course, including the appliances and materials for work, is $25; for the lectures alone, $5. Professor Wright will receive no remuneration for his work. The small fee is charged simply with a view of covering actual expenses of apparatus and materials. It is desirable that the names of those who expect to attend be sent to Professor Wright at once, as he wishes to make certain arrangements in advance.

It is very fortunate, in view of the preparations which are being made to prevent the occurrence of cholera this season, or to treat it, if it should appear, that such an opportunity as this is afforded to the profession; and it is likely that a number of medical health officers and other physicians throughout Ontario will avail themselves of it.

DEATH FROM CHLOROFORM.

ONE of those deplorable, and to a certain extent unavoidable, accidents—death from the administration of chloroform—occurred in St. Michael's Hospital, Toronto, February 25th. An able-bodied laborer required a trifling operation on a frost-bitten toe, and the house surgeon, Dr. R. J. Dwyer, a thoroughly competent, careful, and reliable man, decided to administer a small quantity of chloroform before operating. After using a little more than half a drachm of the anæsthetic, the doctor noticed that the pulse suddenly became weak and the breathing irregular. Energetic efforts to revive the patient failed to prevent death. An inquest was held by Dr. Johnson, resulting in a verdict of "death from accidental causes." A *post-mortem* examination revealed nothing which could account for the fatal result excepting brown atrophy of the heart, a condition which, of course, could not be detected before death.

It was fortunate for Dr. Dwyer that a *post-mortem* examination was made by competent and trustworthy men, who were able to completely exonerate him from all blame. But, at the best, it was a severe ordeal for a young surgeon to pass through. It is just the sort of accident that may ruin one for life. The lesson to be learned is plain, and in the interest of both the profession and the public: No one should attempt, in any particular case, both to administer an anæsthetic and perform an operation.

Meetings of Medical Societies.

THE CLINICAL SOCIETY OF MARYLAND.

(Continued from page 75.)

DR. NORMENT was particularly interested in the suggestion which Dr. Michael made as to the performance of symphysiotomy to save the necessity of craniotomy upon the living child on account of malposition of the fœtus. He had once been compelled to do craniotomy in a face presentation, chin posterior. He saw very readily wherein the operation of symphysiotomy would give relief to that condition.

Dr. Branham thanked Dr. Michael for bringing up the subject. The statistics, as presented, are extremely favorable to the operation. Of course the mortality seems to have been reduced to nothing; but he was inclined to think that it is more than likely the favorable cases have been reported, and the unfavorable cases have not. A good many cases which have gotten well have been followed by chronic diseases of the bones about the pelvis. It is more than probable that there will be a certain number of cases in which more or less permanent injury will result. As far as operation in cases of impaction is concerned, if it can be done in time to save the child it is a very good thing, and will doubtless be carried out in a great many cases.

Dr. Michael: The discussion of the question of symphysiotomy in a case of malposition can only come up when the head is down and impacted. With a child dead, and posterior chin, or a child nearly dead, of course symphysiotomy is not to be thought of; but with a jammed head and a living child, where the alternative rests between craniotomy and symphysiotomy, the latter is to be elected. Dr. Branham's position in regard to conservatism is a proper one. We should always receive new operations with a certain amount of skepticism, and it is very well to look closely into the results of operations before jumping to conclusions. As to the matter of reporting only favorable cases, we certainly have a complete record of the work of men who are prominent in these branches, and in whom the suppression of unsuccessful cases would be simply disgraceful. I am firmly convinced, from Dr. Harris' figures, that there is an amount of improvement in the results of symphysiotomy due to antisepsis that is represented by the reported cases. We have not here an operation which is on trial. When we can present a record of 52 cases, it strikes me that the utility of the operation for saving life has been demonstrated. I think the utility of the operation is demonstrated.

Dr. Hunter Robb read a paper on "Hysteromyomectomy for Large Myomata of the Uterus." Dr. Robb strongly advocates the intraperitoneal method of treating the pedicle after the removal of a myoma of the uterus. The dangers of sepsis and hemorrhage, with improved technique, are less than when the extraperitoneal method is employed, and are not much greater than in an ordinary ovariotomy. The various devices for controlling hemorrhage were considered. The danger from sepsis from the cervical canal can most surely be obviated by curetting both the uterine and cervical mucosa several days prior to the removal of the tumor. At the same time the cavity of the uterus can be cauterized gently with the small point of a Paquelin cautery, and a strip of 10 per cent. iodoform gauze packed in, to be removed the day before the operation. The vagina can be made sterile by irrigation twice daily for two or three days prior to the operation with $\frac{1}{3}$ per cent. warm solution of carbolic acid. The vagina, between douches, should be packed with iodoform gauze. The external genitals should be rendered aseptic. After removal of the tumor, the cervical canal should be sterilized by plunging the Paquelin cautery well into the lumen of the canal. The results obtained by this method in the Johns Hopkins Hospital within the past year and a half have been more satisfactory than where other methods were employed. The period of convalescence is shortened, and there is not nearly so much danger of the hernial complications that are apt to follow other methods. Dr. Robb now drops the pedicle in every case of hysteromyomectomy. The paper was illustrated by large bromide prints showing the different steps taken in the operation described.

Dr. W. P. Chunn thought that a method which had not been mentioned by Dr. Robb, namely, where no pedicle was left at all, was a particularly good variety, and one which would some time come into a great deal of use. In cases where hemorrhage is feared, we advise that an extra suture be passed through the stump and be allowed to come out at the lower end of the abdominal wound, so that it can be gotten at more readily if hemorrhage occurs.

Dr. W. S. Gardner described a method of dealing with the stump by covering it with flaps of peritoneum. He advised cutting out a rim of tissue around the cervical canal, after the use of the Paquelin cautery, so as to get fresh surface, instead of the cauterized. A useful measure to prevent hemorrhage is to pass a stitch around each uterine artery.

Dr. Robb: In my paper I have only considered whether we should drop or in some way fix the pedicle, and I have endeavored to show that, with our improved technique, we are able to drop the pedicle and not treat it by any form of fixation in the abdominal wound.

The point of greatest interest to abdominal surgeons is whether the pedicle is to be treated extraperitoneally or intraperitoneally. The dropping of the pedicle is the ideal procedure, and does much to simplify the operation.

Book Reviews.

HISTORY OF THE LIFE OF D. HAYES AGNEW, M.D., LL.D. By J. Howe Adams, M.D. With fourteen full-page portraits and other illustrations. In one large royal octavo volume, 376 pages, extra cloth, bevelled edges, $2.50 net; half-morocco, gilt top, $3.50. Sold only by subscription. Philadelphia: The F. A. Davis Co., publishers, 1914 and 1916 Cherry street.

We rise from reading the above biography feeling refreshed, strengthened in the belief that success is bound to attend the patient, toiling, and painstaking physician. To have known Dr. Agnew intimately must have been an honor and a pleasure. The writer first met him in 1891, on the train between Philadelphia and Washington. His massive figure and striking features impressed me greatly; but when I listened to his masterly delivery on "The Present Status of Brain Surgery," delivered before the International Congress, then it was that the great surgeon stood forth and impressed those who heard him with his erudition and skill. He held that great congregation of the nation's ablest surgeons spellbound. He had a wonderful magnetism, which is particularly well shown by the power he had over his students.

The author must have had a pleasant task in writing a biography of one so unusually beloved. His ancestors were large men, of Scotch descent, sturdy and plodding. His father, Dr. Robert Agnew, began his professional life as a naval surgeon, but shipwreck on his first voyage changed his plans, and he settled in Lancaster County, Pa., where he acquired a large and lucrative practice. He married the widow of Rev. S. Henderson in 1815, and the subject of this history, D. Hayes Agnew, was the only issue of this marriage—born Nov. 24, 1818. The subject of this biography was always ambitious of being a doctor, in early life playing doctor on every conceivable occasion. How well he succeeded in after life, and how his child dreams were realized, is well told in his biography.

His education was begun in the country schoolhouse, supplemented in a private academy, continued in Jefferson and Newark colleges, and his medical education was begun and completed in the University of Pennsylvania. It is hardly right to say completed there, for he was always a student, and after graduating in 1838 he studied and worked harder than he had ever done as an undergraduate. He married on Nov. 24, 1841, Margaret C. Irwin. There was a break of three years in Dr. Agnew's practice when he engaged in the iron foundry business with his father-in-law. It resulted in failure, and he resumed practice, soon afterwards removing to Philadelphia.

Shortly after coming to Philadelphia, his fortune having been lost in the failure, he bought out the Philadelphia School of Anatomy (1852), and established the Philadelphia School of Operative Surgery in 1854. Both of these schools attained a high standing as factors in the teaching of anatomy and sur-

gery, and had by far the largest attendance of any private institution in the world. Dr. Agnew worked night and day, literally, for these institutions, and his efforts were crowned with the success they merited. He disposed of the School of Anatomy in 1862, and the School of Operative Surgery in 1863. In the same year he was appointed Demonstrator of Anatomy and Lecturer on Clinical Surgery at the University of Pennsylvania. The doctor had his ups and downs, as others have had; he did not use influential friends to push him along, but trusted to indomitable push and steady attention to his profession to bring the advancement he deserved, and ultimately attained. Professor Agnew was not a prolific writer, but his "System of Surgery" was and is a masterpiece. No other man on this continent has had the surgical experience that Agnew had, which makes his system the more valuable, containing statistics the reliability of which cannot be doubted. His work was completed before the days of aseptic surgery, but even that revolutionary event altered very little the work of Agnew. The system was translated into the Japanese language, and is used in Japan as a text-book.

During the civil war he was surgeon in many important military hospitals, and on the field after Gettysburg. He was one of the consulting surgeons in the case of President Garfield, and did all the operations that were done on the President. This particular chapter is full of interesting details, including a minute report of the autopsy. His appointments to civil hospitals were numerous, but he did not receive a professional appointment until 1870, or after being thirty-one years in practice, and his success proves the value of patient plodding. He taught surgery practically, and lectured without manuscript and only a few notes of headings. His home life was greatly to be emulated. His jubilee was celebrated April 6, 1888, and was attended by upwards of two hundred eminent surgeons. His illness was of short duration, only ten days. He was stricken with angina pectoris, but the immediate cause of death was uræmia. The lives of such men as Agnew are well to be studied; they impart new hopes, and buoy up those we have with bright visions of his possibilities. We can learn lessons from such lives that cannot be attained from any other source.

INTERNATIONAL CLINICS. A quarterly of clinical lectures on medicine, neurology, pediatrics, surgery, genito-urinary surgery, gynecology, ophthalmology, laryngology, otology, and dermatology. By professors and lecturers in the leading medical colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D.; Judson Daland, M.D.; J. Mitchell Bruce, M.D., F.R.C.P.; and David Finlay, M.D., F.R.C.P. Published by the J. B. Lippincott Company, Philadelphia.

The volume is prefaced by a short biographical sketch, from the pen of Dr. J. Ashurst, jr., of the late Prof. D. Hayes Agnew, LL.D. The writer has tersely presented a succinct and feeling sketch, in which the ups and downs of the great man are traced. It is a pleasure to read such a biography, and should be a profit to us all. The late professor was undoubtedly a wonderful man, in many respects. In several branches of surgery he was an expert, and as a general surgeon was excelled by none and equalled by few. He has stamped his name so indelibly on the surgical world that his name will always live and his

memory be revered. His "Principles and Practice of Surgery" is a thorough and exhaustive treatise; so carefully written that, even in the light of modern antisepsis, it does not lose any of its lustre. He was a kind and genial friend, always ready to lend an aiding hand to the deserving. A bold and fearless operator; but conservative, never operating where other means could attain the end, yet never shrinking from an operation, no matter how hazardous, when other means failed. His death removed one of the most brilliant lights from the surgical world.

The first clinics in the volume are a case of "Myxœdema," by David W. Finlay, F.R.C.P., and "Myxœdema" by Thos. Oliver, M.A., M.D., both of which are exceedingly instructive. The deficient excretion of urea in these cases is pointed out by Finlay, who used jaborandi and nitro-glycerine in the treatment with benefit, but more decided with the jaborandi. They each materially increased the excretion of urea, and the tension of the skin was reduced. Oliver deals with the functions of the thyroid body, and refers to the fact that "the thyroid gland is the only organ in which constant pathological changes have been found."

Dr. Pye Smith treats of dropsy in a very instructive clinic. After taking up the etiology and diagnosis, he enters fully into the subject of treatment. He refers to the older methods, as pil. scillæ ext. hyd. ox. cin., and pil. hyd. digit. et scillæ, as amongst the most effective medicines, and warns against too much dependence upon the newer drugs. Clinics on "Cardiac Dilatation," "Arterial Sclerosis," "Diagnosis of Cancer of the Stomach," "Localized Ascites from Tubercular Peritonitis" follow, and all are exceedingly good. The one on "Tonic Treatment of Indigestion" we have selected, and will be found on page 263 of this issue.

We pass over numerous clinics, all by good men, simply for want of space; but refer to Dr. Skene's clinic on "Chronic Ovaritis and its Treatment" because it is filled with good, sound advice from a conservative gynecologist. He greatly disapproves of the hasty removal of the ovaries. He does not pronounce cured simply those of his patients who survive the operation, but those who have lost the symptom that necessitated that operation.

"Syphilis as an Etiological Factor in Disease," etc., by Dr. William H. Porter, is well worth spending time in its perusal.

Dr. Francis S. Watson gives an instructive lecture on the removal of bladder tumor. Lectures by Marcus Beck, Thos. A. Ashby, Henry C. Coe, G. M. Lefferts, and others, follow.

On the whole, this volume fully maintains the reputation of the series, and every physician would be materially benefited by having these books on his library shelves, and referring frequently to their contents.

A TREATISE ON DISEASES OF THE RECTUM, ANUS, AND SIGMOID FLEXURE; with six chromo-lithographs and numerous illustrations. By Joseph M. Mathews, M.D. New York: Appleton & Co.

In this work Dr. Mathews gives an excellent account of the present state of our knowledge of this department of surgery; while the good work done by

Allingham, Gowland, Goodsall, Cooper, Van Buren, and others, is credited to these surgeons, and their respective views stated. The work bears unmistakable marks of the author's originality, and evidence of careful clinical observations are abundant throughout the work.

The pathology is drawn from the most recent sources, and the therapeutics have been largely tested by the author, who, during the past fifteen years, has commanded a large practice as a rectal specialist.

The chapters devoted to the anatomy of the rectum and reflexes, and the nervous rectum, are particularly interesting and instructive. The latter will doubtless enable many to discover a definite and curable lesion for a condition which would otherwise have been marked hysterical, and then therapeutically dropped.

A preference is expressed, in the treatment of internal hemorrhoids, for the ligature over the clamp and cautery, so popular with Kelsey and many other successful rectal surgeons. In our opinion, if those using the clamp and cautery would by means of a pile forcep draw the pile so far down that the clamp could be placed upon it, and the cautery employed absolutely outside the anus, the scorching of the mucous membrane of the rectum, by heat radiated from the cautery used inside the bowel, would be avoided, and the operation would rapidly gain in favor as being safe, effective, expeditious, and almost painless.

The operation of colotomy is discouraged, except as a truly *dernier ressort* in malignant or specific disease at least three and a half inches above the sphincters. A clear account is given of the lumbar and the inguinal operations, preference being expressed for the former. We were disappointed to find no mention of the operation by the median incision; in speaking of which Greig Smith, in his "Abdominal Surgery," says: "I have never appreciated the so-called advantages of the inguinal incision, and I should, unless there were contraindications, prefer to operate through the linea alba, and make the artificial anus there. Also bringing the bowel to the middle line causes a more acute flexure of its calibre than bringing it out at the inguinal opening; but this acute flexure is one of the most efficient ways of forming a spur." And further on: "I believe that experience will show that the best method of performing peritoneal colotomy will be by median incision below the umbilicus, that direct implantation will be found most effectual in securing perfect adhesion, and that the use of the supporting loops of thread, as practised by Allingham, will be found of value in many cases." In a somewhat recent case where we did the median operation the result was most satisfactory; an Author's umbilical truss controls the opening nicely, and thirty grains of B. naphthol in each twenty-four hours practically controls the odor.

We have much pleasure in expressing the opinion that the work is highly creditable to the clinical acumen and powers of observation of the author. We know of nothing better upon the subject.

A TREATISE ON NERVOUS AND MENTAL DISEASES, FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic, etc. Philadelphia: Lea Brothers & Co.

The first one hundred pages of this work are devoted to the anatomy of the nervous system, and to electricity as used in medicine. The anatomical illustrations are abundant, and, as the author says, make plain all the facts of structure necessary to a comprehension of nervous diseases. In the electricity chapter, the practitioner will get all necessary information for selecting a suitable battery; and also a statement of the diagnostic uses of electricity, an explanation of the reaction of degeneration, etc. Part II. treats of nervous diseases, and Part III. of mental diseases. The general practitioner will probably find the chapter in neurasthenia the most valuable one in the work, especially as regards management and treatment. Syringomyelia, acromegaly, and myxœdema find a prominent place; but this is, of course, as it ought to be in a recent treatise on nervous diseases. This is altogether the best American work on the subject, and the treatment is its strong point.

THE YEAR BOOK OF TREATMENT FOR 1893. A critical review for practitioners of medicine and surgery. Philadelphia: Lea Brothers & Co.

This is the ninth year of publication of this valuable work. The contributors, twenty-two in number, are well known as men of eminence in the profession of Great Britain, and their names furnish a sufficient guarantee of the excellence of the book. They give, in a concise form, a clear account of everything of importance that is new in the way of treatment which has been brought out during the past year. Mitchell Bruce has charge of diseases of the heart, etc.; Markham Skerritt, lungs; Ernest Reynolds, nervous system; Maguire, stomach, etc.; Ralfe, kidneys, etc.; Garrod, gout and rheumatism; Phillips, infectious fevers; Buxton, anæsthetics; Boyd, Walsham, Owen, Reginald Harrison, Cooper, Lane, various departments of surgery; Herman, diseases of women; Handfield Jones, midwifery; Morris, skin; Power, eye; Field, ear; Barron, throat and nose; Smith, therapeutics; Corfield, hygiene. It is altogether an admirable and useful little book.

VARIOUS FORMS OF HYSTERICAL OR FUNCTIONAL PARALYSIS. By H. Charlton Bastian, M.A., M.D., F.R.S. H. K. Lewis, Gower street, London, publisher.

The name of the author is sufficient guarantee for the excellence of this little work. To the lectures published last year in the *Lancet* the author has added considerable new material, and published them in book form under the above title. The first part of the book deals with the functional paralysis of cerebral type; then follows the functional paralysis of spinal type. Under each of these classes a number of cases are given. The diagnostician will find this little work of great service in helping him to solve the question, Is it a case of organic disease, or is it one of so-called functional disturbance?

The following pamphlets and reprints have been received.

CHRONIC URETHRITIS. By Dr. R. W. Stewart, Pittsburg. Reprinted from *Pittsburg Medical Review.*

ABSTRACT OF PROCEEDINGS of the Michigan State Board of Health.

"A CASE OF HOMATROPINE SUSCEPTIBILITY," "THE ANTISEPTIC DROPPER," "AMBLYOPIATRICS." All by Dr. George M. Gould, Philadelphia, and reprinted from *The Medical News.*

FOREIGN BODIES IN THE PERITONEAL CAVITY INTRODUCED THROUGH THE GENITAL TRACT, WITH CASE. By Dr. Edward J. Ill, Newark, N.J. Reprinted from *The New York Journal of Gynecology and Obstetrics.*

CONCERNING THE EMPLOYMENT OF LIGHT IN THE TREATMENT OF DISEASE. By Dr. W. F. Arnold, Assistant Surgeon, U.S. Navy. Reprinted from *Southern Practitioner.*

MEMOIR OF D. HAYES AGNEW, M.D., LL.D. By J. William White, Philadelphia. Prepared at the request of and read before the College of Physicians, Philadelphia.

Medical Items.

DR. OSLER, of Baltimore, was in Toronto during the Easter holidays.

DR. THOS. S. CULLEN (Toronto '90), who has been at Johns Hopkins Hospital, Baltimore, during the last two years, sailed from New York for Germany, March 25th. He will remain in Germany about six months.

ITEMS OF GENERAL INTEREST.—In a long editorial in the *Medical Press* of February 8th, 1893, we find a very favorable mention of the Medical Council of Ontario and the Ontario Medical Act. After discussing the procedures recently carried out in the prosecution of several members who were guilty of disgraceful and infamous conduct in a professional respect, the writer says: "Upon the whole, we think that the procedure carried out in accordance with the Ontario Medical Act, for the prosecution of professional offenders, is an improvement upon that which is adopted by the General Medical Council here (Great Britain). It would seem that no sooner is the formal complaint lodged by four practitioners than the council at once takes action and commences an inquiry, the preliminary facts for which are specially investigated by an officer—called a detective—who is in the pay of the council. The inquiry itself would appear to be as searching and as exhaustive as that which takes place before any legal tribunal. In the case of one inquiry, the report of which has reached us, many medical men were called upon to state their views as to the conduct of the alleged offender, and witnesses were submitted to cross-examination by the counsel representing the defendant. No secrecy is made of any of the proceedings; the court is quite open, and the defendant is at liberty to bring whom he likes to testify to the rectitude of his character and practice. The committee's work is then ended until such time as it is necessary for them to report to the council."

The following items are translated from the French by DR. J. A. AMYOT:

ACCORDING to M. Lépine, urine transforms peptones into sugar.—*Lyon Méd.*

THE disagreeable odor of ichthyol can be covered by the addition of a small quantity of coumarine.—*Lyon Méd.*

NAPHTHOL in doses of 6½ grs. per day has been successful as a vermifuge in the hands of M. Dubois when he had failed with santonin and other such drugs.—*Lyon Méd.*

BLACK TÆNIA.—According to M. de Nabias, the coloration of the black tænia in man is produced by bile and not by blood. The pigment is situated in the cuticle. Experimentally, he has been able to stain tænia with bile and with blood. He has been able to study the cycle of life of this black tænia in man.—*L'Union Méd.*

HYDROPHOBIA.—M. Verne, the Superintendent of the Infectious Disease Service Amongst Animals, has reported 128 cases of rabies amongst animals in the Rhone district of France during 1892. Of these, 100 were dogs, 15 cats, 1 horse, 7 cows, 7 hogs, and 1 sheep. The animals bit 84 persons, 72 of whom went to the Pasteur Institute for treatment. Twelve did not; of these twelve, one, bitten by a dog, died of rabies forty days after being bitten.—*Lyon Méd.*

THE TYPHOID MORTALITY IN THE FRENCH ARMY.—M. Juhel Rénoy, in his work on the treatment of typhoid, gives the number of cases of typhoid in the French army from 1875 to 1887 as 141,648; of these 21,116 died, or about 15 per cent., a very high percentage, considering the age of the patients; whilst, on the other hand, in his hospital practice in Paris, where the patients were of all ages, and often had been taken to the hospitals on the eighth or tenth day of the disease, the mortality was 8 per cent. Brand's bath treatment was used in these cases. He comes to the conclusion that if the bath had been used in the military hospitals the reserve of the army would now number 7000 or 8000 more men than at present.—*Lyon Méd.*

ACTION OF THE SOLUBLE PRODUCTS OF THE STREPTOCOCCUS OF ERYSIPELAS, BY M. ROYER.—When the streptococcus of erysipelas is cultivated in a soluble medium and excluded from the air, it produces a toxic substance that alcohol precipitates and heat destroys. The unheated and filtered cultures, injected into the veins of an animal, diminish, in a lasting fashion, the resistance to infection by the streptococcus; on the other hand, the heated and filtered cultures injected in the same way increase the resistance, and often hinder infection by the streptococcus.—*L'Union Méd.*

CHLOROFORM ANÆSTHESIA, BY GESEVINS.—This author gives the following as the advantages of the administration of chloroform in small continuous quantities: Absence of the stage of excitement; profound anæsthesia without intermission; rapid recovery of consciousness; the absence of after-vomiting, etc. Only half the quantity is used by this method that is used in the old one (0.6 cm. c., instead of 1. cm. c. per minute). As a proof, he cites the case of a man who was being anæsthetized for the twentieth time. He could

not be gotten under by the old method; but by the new one was brought to unconsciousness in a short time, and with only a small quantity of chloroform, —*L'Union Méd.*

THE ELIMINATION OF BACTERIA FROM THE ORGANISM.—From their experiments, Drs. Pernice and Scagliosi have come to the following conclusions: (1) Independently of the action of the leucocytes and the blood-plasma in destroying bacteria, the infected organism gets rid of or tries to get rid of them by its different organs of secretion and excretion. (2) Care should, in all cases of general infection, be taken that the secretions and excretions be disinfected. (3 The chief, if not the only, cause that destroys the power of resistance to anthrax in some animals is the deprivation of water, thus causing a diminution of secretion and excretion, and consequently rendering elimination difficult, thus bringing about a fatal accumulation of bacteria in the organism. (4) In general infections it is, then, necessary to stimulate the excretion, particularly from the kidneys; it must not be forgotten, either, that all the organs are more or less altered by the action of bacteria.—*L'Union Méd.*

THE DISTRIBUTION OF MERCURY IN THE ORGANISM.—Following Ludwig's methods, Ullmann has studied the distribution of mercury in the different organs. He found the greatest quantity of the mercury in the kidneys, the liver, the spleen, and in the intestines. It is the large intestine which contains the most, and the stomach the least. Only traces are found in the salivary glands, none at all in the saliva. Mercurial salivation should, then, be looked on as a reflex phenomenon only.—*L'Union Méd.*

EIGHTY-SIX NEEDLES FROM ONE PATIENT.—M. Charton-Bastian reports the case of an epileptic woman, aged 55 years, out of whose body were extracted from time to time during six years eighty-six sewing needles. All of these came through the skin but one, and that was coughed up. These needles were expelled without doing any noticeable damage to either nerves or vessels, and without causing suppuration in any one case. The only premonition of the approach of a needle to the surface to be expelled was a little red painful point on the skin.—*L'Union Méd.*

LARGE BILIARY CALCULI.—M. Andry showed before the Society of Medical Sciences of Lyons some large biliary calculi. The largest of these was over one-half of an inch in diameter. These had been expelled by vomiting. The patient had had eight years previously, after a pregnancy, an attack of biliary colic, but had not since had any return of the complaint. M. Andry thought, on account of the large size of the calculi, that they must have passed from the gall-bladder into the stomach by a fistula.—*Lyon Méd.*

A MECHANICAL TREATMENT FOR HABITUAL CONSTIPATION.—Dr. H. B. Beatty, an English naval surgeon, has treated chronic constipation successfully in the following way: At a convenient hour, once a day, the patient lies on his back and rolls slowly along the course of the colon, commencing at the ilio-cæcal region, a small bag filled with shot. The duration of this manœuvre and the weight of the bag will vary according to the degree of constipation and the point of tolerance of the patient. This method, which practically acts like abdominal massage, and which has the advantage of being capable of being

carried out by the patient himself without the aid of a second person, has given very good results.—*Revue Chirurgicale.*

THE TEMPERATURE OF ANTISEPTIC SOLUTIONS.—According to Dr. Aki, heat increases the antiseptic power of bichloride of mercury, at the same time diminishing its poisonous and corrosive effects. The following are his conclusions: (1) The antiseptic power of any solution of the sublimate is increased when raised to 40°C. (2) A 1 in 20,000 solution, and even a 1 in 10,000 solution, warmed to 40°C., might be used in penetrating wounds of the lung, of the pleura, and the peritoneum, without danger. (3) A temperature of 40°C. stimulates the reparative power of the tissues, and accelerates the curative process. On the other hand, a 1 in 1000 cold solution is less antiseptic than a solution ten times as weak, because the warmed weak solution penetrates farther. (4) Raw surfaces unite more quickly when a warm 1 in 500 solution is used, it being less corrosive, than when a cold solution is used.—*Lyon Méd.*

A DEODORANT FOR IODOFORM.—The disagreeable odor that the hands take from the handling of iodoform can be destroyed by using spirits of turpentine. It suffices to rub the hands well with the turpentine and then to wash them with ordinary soap and water. Sputulas, mortars, graduates, or anything that has come in contact with iodoform, may be treated successfully in the same way.—*Revue Chirurgicale.*

SALOL.—Dr. Paul Cornet comes to the following conclusions about salol: (1) Salol is decomposed in the intestine. (2) Salicylic acid is found in the stomach two or three hours after the ingestion of from 2 to 3 grammes. (3) Salol is not entirely decomposed in the intestine. Some is found in the fæces.—*Prog. Méd.*

PEDICULI PUBIS IN THE HAIR OF THE HEAD.—Pediculi pubis have, as a rule, no other habitat but the hair of the genital organs, except when the hair is crisp in other parts. Sometimes they are found, and then chiefly in children, in the eyebrows. According to M. Heisler, the authors are all agreed that they are never found on the head. He reports one case in a boy of fourteen, where they were found in abundance on the eyelashes, eyebrows, and on the head; the hair was covered with nits. The hair was short, blonde, and not curly.—*Lyon Méd.*

THE INFLUENCE OF THE TRANSFUSION OF THE BLOOD OF DOGS VACCINATED AGAINST TUBERCULOSIS ON TUBERCULOUS INFECTION.—MM. Hericourt and Ch. Richet have found that tuberculous material from birds would immunize dogs against human tuberculosis. If the blood of such an immunized dog be transfused into an infected dog, amelioration, and sometimes even cure, results. None of the control animals lived over 32 days. Four of those treated as above lived over 57 days, and two are still living after 105 days.—*Prog. Méd.*

THE ACTION OF DIGITALIN ON THE PULMONARY CIRCULATION.—M. Heger says that though digitalin has a most energetic effect on the left ventricle and on the aorta, it does not in the same way act on the right heart and the pulmonary artery; that though digitalin relieves pulmonary stasis and depletes the lung, it does this not by its action on the right heart, but by its tonic effect on the left ventricle.—*L'Union Méd.*