NOTE ON THE SERUM DIAGNOSIS OF TYPHOID FEVER, WITH DEMONSTRATION OF THE METHOD.

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[Read at the February Meeting of the Medical Society of Victoria.]

During the last few months several articles have appeared in the English Journals in connection with the sero-diagnosis of typhoid fever. For the information of members present who have not followed closely the recent work in this field, we may state that it has been shown that the serum of animals immunised against a given disease, has often a specific action upon the corresponding micro-organism. In particular with regard to typhoid fever, it may be said that when the serum of an immunised animal, or of a typhoid fever patient, is added to a broth culture of the bacillus in the proportion of 1 to 10 or 1 to 5, the following change is observed after incubating for twelve hours at blood temperature. The upper portion of the fluid is clear, while the bacilli have all settled to the bottom of the tube, where they form a number of small clumps, instead of rendering the broth uniformly turbid, as they do if no serum is added. Again, if the same serum is added to a hanging drop of typhoid culture, and the effect observed under the microscope, it will be found that the movements of the bacilli cease almost instantly, and they begin to aggregate in larger or smaller clumps. These phenomena are shown in the specimens exhibited, consisting of:

1. Broth culture of typhoid twelve hours old, exhibiting uniform cloudiness due to the growth of the bacilli.
(2) A similar broth culture inoculated at the same time, but to which has been added one-tenth of its volume of serum from a typhoid patient in the third week. The upper part of the fluid is perfectly clear, slightly coloured by the haemoglobin, while the bacilli have sunk to the bottom of the test-tube, where they form a fluffy mass.

Under the microscope,

(3) A hanging drop preparation of a broth culture of typhoid twelve hours old, showing the extreme motility normal to this bacillus.

(4) A similar preparation to which the serum from a typhoid patient (21st day), has been added in the proportion of 1 serum to 10 of culture. All the bacilli are motionless, and aggregated into clumps.

(5) A drop similar to No. 3, to which normal human serum has been added in the same proportion as in the previous specimen. The bacilli are as actively motile as in No. 3, and the red blood corpuscles are agitated by their motion.

(6) A drop preparation to show "pseudo-clumping." This occurs when small particles of a solid culture medium, or of other foreign bodies are present in the fluid, or when the preparation is allowed to partially dry up. They are to be avoided by care in the technique.

With regard to the value of this method in the diagnosis of typhoid fever, we have not yet had sufficient experience to form an independent opinion, and can only lay before you the results obtained by others. Durham and Gruber, who first pointed out the special action of the serum of immunised animals, state that all the specimens of typhoid bacilli obtained from nineteen different sources reacted positively with typhoid serum (obtained from immunised animals). Moreover, that all the races of the colon bacillus, as far as yet tested, react negatively with typhoid serum.* With regard to patients suffering from typhoid fever, Durham failed to obtain the reaction in four cases out of ten, all of which were clinically typical cases.†

† Lancet, December 19, 1896.
Grünbaum, working with Gruber, finds that "it is only in cases of enteric fever that the serum shows a distinct agglutinative action within thirty minutes when diluted sixteen times." Undiluted serum of healthy patients, or of those with other diseases than typhoid, or serum diluted to a less extent than this, frequently yields a partial or distinct reaction.* These points are emphasised in a more recent communication.† These observers have worked for the most part with agar cultures of typhoid less than twenty-four hours old, a loopful of which is rubbed up with sterilised broth to form a uniform emulsion. This emulsion must be examined microscopically in order to ensure the absence of any solid particles or clumps of bacilli. They lay considerable stress upon the virulence of the typhoid culture used in the experiment, attenuated cultures being the much more easily affected by non-typhoid serum.

Professor Widal was the first to make use of bouillon cultures, and his methods are essentially those which we have made use of in the demonstration this evening. He showed that the diagnosis could be made by adding a few drops of serum to a culture of the bacillus in bouillon already cloudy, and observing whether the bouillon became clear and a precipitate formed at the bottom of the test-tube in the course of a few hours. His second method was that adopted in our experiment No. 2. His third method, and that which was adopted in ordinary daily practice, is that demonstrated under the microscope this evening. He also indicated that the reaction can be obtained by using dry serum or dry blood.‡ Widal found the positive reaction in forty-five cases of typhoid during the acute stage, and a negative result in 200 cases in which he examined the serum of persons in good health.

Dr. Wyatt Johnston, of Montreal, appears to have been the first to make use of this method for the diagnosis of cases at a distance. Dried drops of blood upon sterilised paper were sent to his laboratory, and the correct result given in each of the sixteen cases mentioned in his paper.§

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The most complete account which has as yet appeared in English Journals, is that of Délépine, who closely follows Widal's method.* He finds that out of 25 cases of typhoid, there was not one which failed to give the reaction sooner or later. Ten cases, not typhoid, but most of which were attended with fever, all failed to give the reaction. The blood of normal individuals does not give any reaction. The reaction is most uniformly perfect during the third week, but it may be obtained from the end of the first week. Widal states that it can be obtained as early as the fourth day, and persists until after the fifth week.

It will thus be seen that observers who have followed Widal's methods are practically unanimous with regard to its value and reliability as an aid to diagnosis in doubtful cases. The peculiar features of this method are the use of a broth culture of the bacillus, and the addition of the suspected serum in the proportion of one to ten, as a routine proceeding. If this proportion fails to give the reaction, it may be modified and a fresh cover-glass prepared. The technique is very simple, and the result in most cases of typhoid very striking, but in doubtful cases the whole result depends completely upon the care and experience of the investigator. Hence, it seems likely that the work must, for the present at least, be done in the laboratory rather than at the bedside.

The first step in the discovery of this test was made by Pfeiffer who, in 1894, showed that certain changes take place in cholera vibrios when injected into the peritoneal cavity of an animal immunised against that micro-organism. The vibrios become motionless, collect into clumps, and undergo a series of changes in form, ultimately leading to what has been called "sperular degeneration." Several observers then discovered that the clumping occurred outside the body in the serum of immunised animals, while Durham worked out the application of this method for differentiating the various varieties of the cholera vibrio and forms closely allied to them. It is interesting to note that Pfeiffer just missed discovering the whole method of diagnosing typhoid more than two years ago. In the *Lancet, December 5 and 12, 1896.*
November 29, 1894, he says—"In the serum of animals immunised to typhoid, antitoxins are formed, having a specific bactericidal action on the typhoid bacillus, but not on allied bacilli. By this method the presence of true typhoid bacilli may be proved. Such antitoxins are found in those convalescent from enteric fever." Widal completed the discovery by taking the typhoid bacillus, and using its specific reaction in order to diagnose an unknown disease.

SOME NOTES ON THE PROGNOSIS AND TREATMENT OF TYPHLITIS (APPENDICITIS).

By James Jamieson, M.D.
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In spite of Mr. Treves and his large surgical following, it is not quite clear that we should drop the word "typhlitis," and substitute "appendicitis" for it. Probably enough, the latter is the more correct and descriptive term in the great majority of cases. But that appendicitis is the primary, and practically the sole condition, in the many cases which recover, has neither been proved, nor can it be easy of proof. That appendicitis is the actual cause of the symptoms, in nearly every case where the diagnosis is established by operation or post-mortem examination, must be at once admitted. Many think that the question of terminology is completely settled thereby, and it may be allowed, at least, that the diagnosis "appendicitis" is more definite, and practically a safer and more useful one, than that conveyed by the rather loose term "typhlitis," even with its now old-fashioned para- and peri-additions.

There is hardly any diseased condition known to me, in which the practitioner, who is not in any special way a surgeon, often feels himself in greater difficulties than in framing a diagnosis, which will also cover a prognosis in these cases. Of course prognosis must ultimately depend on a good and full diagnosis, in all sorts of conditions; but it does not follow, in many of them, that the question of treatment, very active on the one hand, or practically expectant on the other, stands in the same relation of
close dependence. Where a man has made up his mind that operation is called for whenever the diagnosis "appendicitis" has been made, there need be no trouble; but there are many of us who have not yet been able to accept the doctrine that there is little or no danger attendant on laparotomy, exploratory or otherwise, and even surgeons of authority and experience are not quite agreed.

If the pathology of appendicitis were only wrought out, and a satisfactory classification of cases and forms of the disease definitely come to, the difficulty and responsibility would be lessened. But, in many cases, there can be little better than supposition about the actual pathological condition leading to the symptoms; and even with appendicitis accepted as a descriptive term, there may be very different causes at work. Foreign bodies are certainly present in a good many cases, but they manifestly may be long present without causing much, if any, trouble. The general classification of cases into (1) catarrhal and (2), suppurative or ulcerative, is perhaps good enough; and, inflammation having been excited, the presence or absence of a foreign body may go far to decide the further course. Much must also depend on the permeability of the opening from the appendix into the cecum. But in the absence of tuberculosis, or other specific cause of ulceration, there is room for much difference of opinion as to the exciting cause of the catarrhal or suppurative condition. A mere catarrh of the appendix, with free vent for secretion, can hardly be supposed capable of producing the severe symptoms often met with, arising quickly, and ending in no great time in apparent complete recovery. It is the short and favourable course of some cases which has led to the setting up of a supposed "appendicular colic," and though the supposition has been ridiculed by surgeons, I can see nothing improbable in it. It certainly seems to me altogether a more likely cause of attacks of localised pain, with some tenderness, than the "rheumatic appendicitis," which has recently been described. Some foreign material, liquid or solid, must be assumed as present, and setting up contractions by its mere presence, or by the irritation it produces. It is not pushing analogy too far to assume that there may be symptoms, in connection with the appendix, resembling those of
biliary colic, transitory like these in some cases, and in others more persistent, and attended with serious danger. It may easily be that, in the appendix as in the gall-bladder, foreign bodies may exist for a long time without causing marked symptoms, trouble ultimately arising, either from over-distension or the occurrence of inflammation. In the case of the appendix, intercurrent inflammation, as the immediate exciting cause of symptoms, is probably almost the rule, therein differing from the order of events in cases of biliary colic. And probably there is this further difference, that foreign bodies, such as faecal concretions, with or without calcareous deposits, are much less constantly present as the antecedent of appendicitis. The cause of the inflammation may be taken as certainly some bacterial infection, and Mr. Treves has argued strongly in favour of the bacillus coli communis being the infecting agent. It is quite in accordance with the best recent teaching in pathology, to suppose that the bacillus varies in its virulence and consequent infecting power, and that, as a result of constipation or errors of diet, it may acquire pathogenic properties. In that case, the likelihood of inflammation being produced is greatest in the narrow diverticulum which the appendix forms. Inflammation so occurring, either in the normal appendix, or in one containing retained foreign material, will have different consequences in different cases, according to the virulence of the infection, and the possibility of the easy escape of morbid products into the bowel.

But, if the opinion be a correct one, that the bacillus, habitually present in the intestinal contents, and usually harmless, may become pathogenic, as the result of constipation or some error in diet, or possibly from other causes unknown, it is further fair inference that if the cause of the increased virulence can be removed, the inflammation may subside. There is thus suggested a principle of treatment which is almost universally recognised as important, though, in consequence of surgical teaching largely, there is often much hesitation in carrying it out.

In regard to prognosis and treatment there may be said to be two schools, the medical and surgical, with extremists on both sides, as well as others who occupy a mediating position. The
surgical view of the question was lately put in a strong way by Mr. Mayo Robson (British Medical Journal, December 10, 1896)—"It may sound somewhat radical, but I speak from conviction, after considerable experience, when I say, that I believe the early operation undertaken as soon as appendicitis is diagnosed, first advocated by Dr. McBurney, would lead to a far greater percentage of recoveries than the method of individualising, which we in England still adopt, and which we seem likely to continue." On the other hand, what might almost be called the physician's view of the question, was stated just as strongly by Mr. Thornley Stoker, the eminent Dublin surgeon, in a lecture published in the British Medical Journal of June 1, 1895—"Observation has taught me that operation in acute typhlitis is highly fatal, and should only be resorted to in very exceptional cases." Quoting the opinion of Mr. Treves, that the number of cases in which there has been only one attack is much greater than that in which there have been recurrences, Mr. Stoker goes on to say:—"Once we allow that persons who suffer from single attacks are much more numerous than those who suffer from relapses, we have found the strongest reason, in the face of the fatality of laparotomy in the acute stage, for using every other reasonable means. I have rarely seen a case of acute typhlitis in which the large bowel was not full of old faeces, and I have still more rarely seen a case, in which the colon could be unloaded, in which recovery did not take place."

With divisions in the surgical camp, and with experience of recoveries not uncommonly without operation, and of deaths after operation, it can hardly be wondered that we, who are not surgeons, hesitate about accepting teaching having as its purport that it is always right to operate in cases of typhlitis. For myself, I have to admit having passed through somewhat varying phases of opinion on the subject, and confess to a willingness to concede more to the surgeon than is allowed by many of my medical colleagues.

The question of prognosis, from the physician's point of view, resolves itself very much into this—Is the case under observation one in which general measures may be tried or continued, or are the symptoms such as to call for surgical interference with as
little delay as possible? It is difficult to lay down any general rule, but so far as I have been able to formulate any such for my own guidance, it is to the following effect. So long as pain remains well confined to its original seat, there is no need for haste; but if it extends to some other part of the abdomen, even if it be not actually generalised, there should not be delay in the adoption of operative procedures. Almost every one will admit that when pain becomes diffused, with distension and other signs, and particularly pulse signs of general peritonitis, delay is dangerous; if it has also to be recognised that there is large fatality in these cases, either with or without operation. So far as the rule which I have tried to lay down has any special value, it is in the insistence on the fact that extension, beyond the original seat of pain and tenderness, is a note of warning, even though there may be abatement of symptoms at that seat, and even some improvement in the general condition. And it is of importance to bear in mind that, if the primary seat in the great majority of cases is at or near McBurney's point, it is not always so. The appendix varies considerably in length, so that its tip may be well to the left of the middle line, and not very far above the pubes. In that case, the first seat of pain and tenderness may be quite away from McBurney's point. A case under my care in the Alfred Hospital in 1892, was almost certainly of this kind, the attack for which he was admitted being the second, with the interval of good health lasting a year. Previous to both attacks, there had been constipation, and two days before the second attack, he had eaten apples with the peel. There came a sudden attack of pain over the left pubes, with formation of a tumour the about size of a cricket ball. Matter was discharged from the bladder for several days. He was nineteen days in the Hospital, and left quite well. There was vomiting for a day or two, but the temperature was not noted as higher than 99.2° F. Pain, not uncommonly, is severe in the right loin, and may be due either to location of the appendix behind the cæcum, or to inflammation extending in the loose tissues behind—the para-typhlitis of the older nomenclature. These cases often tend to run a rather chronic course, and to end in formation of an abscess. It is doubtful if early operation is often advantageous. A striking
instance of appendicitis, beginning in the ordinary way, but with alteration in the ultimate seat of main intensity of local trouble, came under my notice in the Alfred Hospital in 1894. The patient was a youth of 20, and at the time of admission, on 19th October, had been four days ill. Pain had come on suddenly, followed by vomiting, which persisted. He did not localise the first seat of pain well, but there was tenderness in the right flank, with a well defined area of dulness on percussion, and resistance on palpation. The bowels had been constipated. There was not much general distension, but the pain continued in the abdomen and back. On the 24th, he was rather better, the vomiting having ceased, and the tongue become moist, but till the 27th, the temperature was never below about 100°, and once as high as 103.2°. After that, the temperature was normal in the morning for several days, the abdomen becoming softer, and the hardness in the right groin less. He had taken small doses of sulphate of magnesia, and his bowels had been well cleared, the tongue also cleaning, and some appetite returning. But on 1st November he had a rigor; the temperature again went up, the belly became more distended, and pain was complained of chiefly on the left side. This rather puzzling complication persisted, and there was pain on defecation, with troublesome tenesmus. Enemata were administered, and brought away some hard scybala, but with persistence of these left side abdominal symptoms, he died on 4th November.

Post-mortem examination showed an abscess in the left groin, which had formed round pieces of calcareous concretion, resembling broken nut shells, which had escaped from the ruptured appendix. It may be said, and perhaps truly, that this is just the kind of case in which early operation might have been useful. But it is also true that it was not unreasonable to expect continuance of the improvement, which for a time was so marked, and the change of symptoms was not easy to explain. The case at least is interesting and instructive, as illustrating the statement already made, that extension of pain much beyond the original seat, even with improvement of condition there, should be regarded with suspicion. In this case, I believe that the improvement which took place, and which went as far as was
possible under the peculiar circumstances, was due chiefly to the purgatives and enemata used. And the use or avoidance of purgatives, or large enemata as substitutes, is perhaps the most important point to be weighed. When acute general peritonitis is set up, no benefit can be expected, and certainly not when there has been perforation. But when there is a history of previous constipation, when the pain and tenderness are distinctly localised, and swelling is moderate in amount and well circumscribed, I believe there is often mistake made in temporising timidly with mere local applications and mild opiates. If the bowels can be cleared of irritating matter, and their function regulated, we may succeed in removing an important cause of the sudden attack of inflammation in the appendix and cecum, and so bring the case to a quick ending. We must recognise that to some extent we are in the dark as to the previous existence of latent appendicular disease. In the case just referred to, for instance, the concretions may have existed for quite a long time, and yet there was no history of troublesome symptoms having been produced. But in the absence of signs of extending peritonitis, it is not easy to see that there should be risk from the mere setting up of intestinal peristalsis. And with removal of a local source of irritation, and consequent lessening of inflammation and swelling, an opportunity may be given for the appendix to discharge any distending and irritating material through its narrow opening into the bowel. Large enemata may first be tried, and if any improvement follow their use, there will be some encouragement to try some mild laxative, such as castor oil, or calomel, in repeated small doses, with belladonna as an accompaniment. Salines, if rather more severe, may be even more effectual in a suitable case. Local applications, in the shape of poultices or fomentations are certainly harmless, and at least serve temporarily for the relief of pain. Large repeated doses of opium or morphia are now condemned by almost all authorities.
FURTHER NOTES ON CASES OF DEATH UNDER CHLOROFORM.

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Unfortunately, in two recent cases I have had the opportunity of again studying the post-mortem appearances in the bodies of those who have died while under the influence of chloroform.

The first case was that of an emaciated girl 12 years of age, who was being operated on for stone in the kidney. An incision had been made in the abdominal parietes, and another was being made in the right flank, when she suddenly lost colour, the pulse ceased, and all efforts to restore her proved unavailing. Both sides of the heart were considerably dilated; the right ventricle contained fluid and clotted blood, its muscular wall was very thin and flabby. The valves were normal. There was slight congestion of the lungs and trachea; both kidneys contained several large calculi, and their substance was in the condition known as "surgical kidney." The mode of death in this case seems to have been chiefly cardiac failure, though possibly, from the slight congestion of the lungs and trachea, there may have been an asphyxial element in it.

The second case was also in a female 28 years of age, who had just recovered from a severe attack of typhoid fever. Her temperature had been normal for eleven days. A swelling had been noticed in the right hypochondriac region; it was aspirated, and found to contain pus. Chloroform was administered for the purpose of a further operation. She was not completely under the anesthetic when she attempted to vomit, and her face became cyanosed; it then became pale, the pupils dilated, and her pulse was found to have stopped; artificial respiration proved quite useless. All the distinctive signs of asphyxia were present in the body, the congestion in the trachea and lungs being particularly well marked. The heart weighed twelve ounces, and its cavities were dilated; the right ventricle was distended with fluid blood, the left was more or less empty, and was partially contracted. The valves were normal. The heart muscle looked soft and doughy. There were pigmented healing
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ulcers in the small intestine, and there was an abscess with ragged wall in the abdominal wall on the right side. Death was evidently due to the partial asphyxia proving too much for a heart which had not yet recovered from the dilatation and cloudy swelling induced by the continued fever. This mode has been aptly termed "asphyxial syncope."

In contra-distinction to this last case, the appearances in the body of a woman who died from cardiac failure pure and simple are interesting. She had been operated on some seven days previously for a retroverted uterus by the Alexander-Adams method. During the night before her death she complained of feeling faint, and was given some brandy, which relieved her. In the morning she was apparently quite well, and enjoyed her breakfast. She suddenly became faint again and lost consciousness for a little time, her face became pale, then more or less livid, the pulse could scarcely be felt, and very soon ceased altogether. The right side of the heart was extremely flabby and relaxed, it was distended with blood; the left ventricle was contracted. The lungs were very pale in colour, almost white in fact, while the liver and kidneys were greatly congested, the hepatic veins being overflowing with blood. This was evidently a case of primary failure of the right ventricle.

A CASE OF LOCOMOTOR ATAXY.

By A. V. M. ANDERSON, M.D. et B.S. Melb.

[Read before the Melbourne Medical Association.]

The case I wish to report to-night presents several interesting features, and although to my mind the diagnosis of locomotor ataxy is fairly well established, the progress of the case, and more particularly the mode of onset, differ from the normal considerably.

The patient, S. M., was a married woman, æt. 32, who was admitted to the Alfred Hospital on July 30, 1892. Twelve months before admission she had had an attack of "influenza," lasting six weeks. Her most marked symptoms during this time were vomiting and neuralgic pains all over the body. She
had never been quite well since this illness, suffering from pain in the pit of the stomach after meals, and from occasional attacks of vomiting. Three weeks before admission a severe attack of vomiting, with epigastric pain and back-ache came on, and caused her to take to her bed, where she had been ever since. While in bed, about a fortnight ago, she noticed numbness in her hands, and shortly afterwards in her feet; the numbness in the lower extremities has since gradually extended as high as the knees. Two days before admission, when trying to get up from bed, she found her legs so weak that she fell, and she has had very little power in her legs since. No cramps in the legs, which feel cold and have a sensation of "pins and needles" up to the knees. There has been pain in the back ever since this illness began, extending from between the shoulders down to the lumbar region.

Patient has been able to pass her urine in small quantities, but some has come away involuntarily whenever she moved. No incontinence of faeces; constipation usually; no girdle pain. Patient has had two children, fifteen and thirteen years ago; the latter died when three weeks old. No miscarriages. No direct or indirect history of any specific taint could be obtained.

On examination, the heart and lungs were normal; the liver not enlarged. There was a large, soft, fluctuating swelling, evidently the distended bladder, in the hypogastric region. Urine 1010, no albumen. There was some tenderness to a hot sponge at the lower dorsal region. Plantar and patellar reflexes absent. Patient had some power of movement of thighs, legs, and toes, but was unable to raise her heels from the bed. There was anaesthesia of the greater part of the legs, especially on the anterior and outer aspect, but more sensation in the foot. The patient was able to tell when the muscles of the legs were being squeezed, or the toes moved. There was some numbness of the palms of the hands, but no marked loss of motor power.

The diagnosis at this stage seemed to lie between a peripheral neuritis and a localised inflammatory disturbance of the lower part of the cord; no thought was given to locomotor ataxy, and no investigation was made as to co-ordinating power, or the condition of the pupils. The gradual onset of symptoms, and the involvement of the hands as well as the feet, seemed to favour
the diagnosis of peripheral neuritis, a peculiar feature being the presence of bladder distension, which is certainly an unusual accompaniment of this stage of the disease. Patient was given a pill containing ext. physostigma gr. \(\frac{1}{4}\), and ext. bellad. gr. \(\frac{1}{3}\), t.d.s.

A week after admission, a note was made to the effect that there was neither gluteal nor abdominal reflex, and that the right pupil was smaller than the left. The other symptoms were very little altered; there was still incontinence of urine.

A week later still there was considerable improvement in symptoms; the anaesthetic area was smaller, and patient was able to hold both legs up from the bed for several seconds; she was able to flex and extend the toes well, and the anaesthetic area appeared to be diminishing. A fortnight later still, tactile sensation had returned except over a small area in front of right ankle; but though patient knew she was being touched, she could not tell the difference between such sensations as pinching, scratching, and ordinary tactile sensation. There was also some return of the abdominal reflex. At about this time certain symptoms appeared, the significance of which was not evident at the time, these were severe pain in the back and around the abdomen, high up, and also sudden sharp shooting pains in the thighs and legs, which, later on, were noticed to resemble closely the lightning pains of tabes. There were also periodical attacks of epigastric pain and vomiting, and these various symptoms required usually the hypodermic injection of morphia for their relief.

At the end of September, two months after admission, the muscular power in the lower extremities had increased so much that patient was told that she might get up and try to walk about. This she was unable to do, and on being examined while attempting to walk, it was found that she had the typical gait of locomotor ataxy, and was quite unable to stand without assistance. It was then found that the Argyll Robertson eye phenomena were present, and that loss of co-ordination was marked in the upper extremities, patient being unable to touch the tip of her nose with her forefinger when the eyes were closed. There was occasional diplopia, and, on the discs being examined, some signs of venous fulness and pigmentation of the left disc. Patient was then given argent nit., gr. ss., t.d.s., and pot. iod. gr. xxx. every
night, but there was no improvement in symptoms. She was subject occasionally to twitching in the legs, with rises of temperature sometimes as high as 104°, and lasting for two or three days. An ulcer of the cornea developed in November, and one day a small quantity of calomel was dusted on this. Severe ophthalmia followed, and lasted for some weeks, being due, in all probability, to the formation of an iodide of mercury from the combination of the calomel with the iodide of potash which the patient was taking. Subsequently the symptoms continued much as they had been. Gastric crises and pains in the limbs recurred at intervals, and required treatment with morphia.

At the end of January 1893, suspension in Sayre's swing was tried, at first for two minutes, then for four minutes every second day. While this treatment was going on, the lightning pains in the limbs seemed much less than formerly, and after a time, incontinence of urine, which had been present ever since admission, came to an end. The epigastric pain and vomiting recurred at intervals, and occasionally interfered with the suspension treatment. The power of walking, however, did not return, the want of co-ordinating power in the legs being very marked.

Patient remained in the hospital till May 1893, having vomiting attacks frequently, and occasionally lightning pains, more particularly when the swinging had to be discontinued. Pains too sometimes came on in the ulnar side of the forearm. Before leaving the hospital, there seemed to be slight reaction of the pupils to light, and patient was able to pick up small objects from a level surface. There was, however, no improvement in the general condition, patient becoming gradually thinner, and being ultimately discharged as incurable. Her death was reported a few months after leaving the hospital.

One of the reasons for bringing this case before you is the peculiar nature of the early symptoms, which were such as to give rise to the diagnosis of peripheral neuritis. Mr. H. Page has suggested (Brain 1883, p. 361) that some cases of tabes may have a peripheral origin, and such a case as the one I have reported seems to support this view. It is doubtful, however, whether some of the patient's early symptoms, such as vomiting and neuralgic pains, were not really manifestations of the disease.
THE PURITY AND STRENGTH OF DRUGS AND CHEMICALS.

By P. WARD FARMER, M.B. et B.S. Melb.

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[Read at the February Meeting of the Medical Society of Victoria.]

For five years, before becoming a medical student, it was my privilege to examine large numbers of drugs and chemicals, with the result that I became dissatisfied with the quality of many of them. Later, during my medical course, circumstances compelled me to teach quantitative analysis, and the results obtained were such as to give me even more pronounced feelings of dissatisfaction, for in testing hydrocyanic acid it happened that the analyses gave from 3 per cent. to 1.7, and the average of a large number of analyses was under 1 per cent. Again, chlorinated lime, erroneously styled chloride of lime, which should contain 33 per cent. of available chlorine would prove, on careful analysis, to contain from 1 to 2 per cent. up to 30 per cent. of available chlorine.

After qualifying some little time, I began to administer anaesthetics freely, and one frequently found that ether could be given where chloroform was contra-indicated. The after-effects, however, such as vomiting and general distress of patient were such as to leave much to be desired, and I resolved after 300 cases to try Robbin's ether. I first tried the effects of the two qualities of ether upon myself, and later, upon my patients, and the clinical results were such as to leave no doubt in my mind as to the advantages of using the purer. For in the first place, much less ether was used; secondly, the patient went off more quickly; and thirdly, the disagreeable effects noticed upon the patient were absent, or if present, were much less in degree. In fact, the sister of one hospital who had previously detested ether remarked upon the
marked improvement; and instead of vomiting being a constant symptom or sign after the use of ether, it was exceptional to see it. I have administered the purer quality in quite 300 cases, and in future shall always be careful, before drawing comparisons between two chemicals, such as chloroform and ether, to see that one is using reliable articles.

The use of this better and more expensive ether brought me into conflict with the committees of three different institutions, some of the members of which thought it great extravagance to use such expensive anaesthetics, when anaesthetics one-fourth the price would do as well. This brought to my mind a case which occurred in a country town some years ago. A certain up-country druggist contracted to supply the local hospital with Howard's citrate of iron and quinine among other things. The dispenser of the hospital had some doubt about the quality of it, and sent it to the Government Analyst, who reported that it did not appear to contain any quinine. The up-country druggist tried to shift the responsibility on to the wholesale druggists, one of the most reputable and conscientious firms in Australia, and the following is an extract from their letter to the paper:

"In your issue of yesterday appears a telegram from your — correspondent, under the heading of the ' — Hospital Supply of Inferior Drugs,' in which our name is mentioned in a rather unfair way. The article mentioned is citrate of iron and quinine, of which, unfortunately, there are several qualities. Howard's, which is guaranteed to be of the strength ordered by the British Pharmacopoeia, contains 15 per cent. of quinine. There is a cheaper article containing 10 per cent. of quinine, and a third quality in which the quantity of quinine is not stated. In our price list we quoted Howard's at 2s., the 10 per cent. at 1s. 3d., and the commercial at 1s. This last article is what was supplied as ordered. This firm knew perfectly well that they were buying a cheap article, whereas it would appear from your correspondent that Howard's was specified on the contract. If we could follow out our own desires, we should sell nothing but the best of everything. We have for many years been averse to the system of tendering for drugs and chemicals to public institutions, believing, as we do, that this form of competition tends to the lowering of the quality of the goods supplied."

The last sentence is surely pronounced enough to show that hospitals are not always supplied with the purest drugs and
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chemicals, and I repeat that some of the drugs and chemicals as dispensed in Victoria are simply useless as therapeutic agents.

Reverting to the question of anaesthetics, there is absolutely no doubt that some very inferior chloroform must get into use, and it is a significant fact that one German chemist quotes no less than six different qualities of this chemical; such a condition of things should not be tolerated, as it introduces an element of doubt, which is very far reaching in its evil effects, and makes it absolutely impossible to draw accurate deductions as to the relative merits of chloroform and ether.

Some few months ago I asked a pharmacist to mix me some A.C.E., and instructed him to use Duncan and Flockhart's rectified chloroform, Robbins' ether, and pure alcohol. Upon going to use it, the odour of sulphuretted hydrogen was marked and undoubted, and one could not use it. If such a thing be possible with a good pharmacist, what may happen with people who are irresponsible and careless? I am sure that the inhalation of sulphuretted hydrogen by a person deeply anaesthetised would be dangerous, because every one knows how near death a patient is under such conditions, and I have a grave suspicion that many of the deaths are due to the presence of impurities. Moreover, chloroform, like many other delicate chemicals, undergoes rapid change under certain atmospheric conditions—exposure to light, and so on—so that a sample, which is quite pure when made, may, in its passage across the tropics, be rendered unfit for use, and seeing that valuable lives are lost far too frequently, it is not too much to ask the State to exercise some supervision over its sale, for it is an anomalous condition of things that the strictest supervision is exercised over the sale of brandy, and none whatever over such an important chemical as chloroform. It is surprising how frequently people are fined for putting inferior brandy into Hennessey's bottles and selling it for the latter, and a few years ago it was a matter of common talk here that inferior chloroform was being placed in Duncan and Flockhart's bottles, and sold as Duncan and Flockhart's. The thing can be easily done, because the bottles often leak in transit, and it is a very easy matter to fill up the half empty bottles with inferior brands, and sell it as Duncan and Flockhart's, because the bottles and labels are at hand. Until
care is exercised in using the purest anaesthetics, it must be absurd to compare the relative merits of chloroform and ether, because the action of impure ether may be compared with that of pure chloroform, or that of impure chloroform with pure ether, and men who wish to observe accurately and record their observations faithfully, are blocked at the onset. As regards the brand used, one does not care what that is, so long as it is properly tested by a competent analyst, and the careful storage of it is attended to. And, while speaking of testing, it seems to me that our tests for chloroform, as for many other chemicals, are crude and unsatisfactory, and that there is room for great improvement in this respect.

ARE OUR ANTISEPTICS RELIABLE?

Some little time after my discussion with the different committees, I happened to be assisting one of our best surgeons in an urgent case. We both remarked that the carbolic acid did not behave as it usually did with water, and came to the conclusion that it was not pure. When a surgeon mixes 1 ounce of carbolic acid with 19 ounces of water, he should feel satisfied that his solution is a 5 per cent. one, and not a 1 or 2 per cent., as it may be if his acid be not pure. I think it is extremely unjust to the great Lister, and a poor reward for his industry. No doubt valuable lives have been lost through surgeons neglecting to use the purest acid. As one watches the excellent work of some of our surgeons, one asks one's-self again and again whether the antiseptics used are really what the surgeon expects they are, and the doubt has often caused one to feel depressed in the extreme, at the thought of good work being useless, not through imperfect preparation, not through faulty technique, and not through omitting to note carefully all the little details, but through the antiseptics used being not what they are expected to be. It is a most serious matter, and one which should cause every conscientious surgeon to think deeply.

In a discussion upon antiseptics a short time ago, one surgeon stated that he had little or no faith in carbolic acid. It is just possible that this gentleman had been deceived with his chemical. Another stated that some of the iodoform used was adulterated with
flour, &c. I maintain again, that such a state of things in a community like ours, in many respects up-to-date, is disgraceful, and the sooner we make a firm stand for a change the better for the practice of medicine and surgery. It is our duty to carry out to the letter the excellent work of such men as Lister, and there should not be even a doubt about the quality of the antiseptics used.

Later on, we read of the cure of snake-bite by chlorinated lime. This again is most variable, and I assure you that I have tested samples which would not yield 1 per cent. (although it ought to contain 33 per cent.), owing to improper preservation. I have been accused of having taken a volatile, unstable preparation as an example, but I chose it because we hear so much of this cure, and it does not alter the fact that a marvellous discovery may be rendered useless or unsatisfactory, owing to a crude, inaccurate, and shamefully careless way of applying it. Again I repeat that it is wrong to draw deductions from the action of such a badly applied remedy, and most unjust to the discoverer. A few Sundays back I obtained three different samples of chlorinated lime, and examined them, with the result that one contained 28.75 per cent. of chlorine, another 15.62 per cent, and the third 9.94 per cent.

Hydrocyanic acid is objected to as being so very unstable. It is said that the very best brands will only give 1.6 or 1.7 per cent. on arrival here. If it be impossible to get it across the tropics of 2 per cent. strength, either let us make it here, or increase the dose to make up for the deficiency.

Unfortunately, the stable chemicals would, I fear, on proper analysis, fail to answer in many cases the required tests of the Pharmacopoeia, and so long as there is no proper supervision over the sale of these chemicals, anything will be shipped out, and the profession of medicine and surgery held up to a certain amount of ridicule.

Look for a minute at our drugs and preparations thereof, and take opium as an example. This is remarkably variable, containing from 3 per cent. to 13 per cent. of morphina, and yet the tincture is made by simply macerating an ounce and a half of opium in
one pint of proof spirit. It is the exception to standardise it, and hence it is probable that twelve different pharmacies will give twelve different strengths. Now, imagine the danger of gradually working up to your patient's tolerance with a sample of opium containing 4 per cent. say. You get to your patient's limit, for argument sake say forty minims. The prescription is now for some reason taken to another pharmacy, where the tincture is made with opium containing 12 per cent., and the result is that suddenly he or she gets three times as much as you wish, or what is equal to 120 minims of the weaker tincture; the effect can be imagined. I don't think for a moment that the Smyrna opium is always used as I have seen the colonial opium employed frequently, not that one has any objection to it, only one would like to see the tincture, and in fact every other tincture in the British Pharmacopoeia, standardised. It is often argued that we can use the alkaloid, but it must be borne in mind that the action of the chief alkaloid may be very different with other alkaloids present in the crude drug to modify its action, and the more expensive alkaloid is even more likely to be adulterated than the less expensive crude drug. Surely, if the preparations of nux vomica can be standardised, those of all other drugs can and should be. Unfortunately, there are many more pharmacopœial preparations equally unsatisfactory, and it behoves us to stir ourselves.

It is instructive to quote from Bentley and Redwood's Materia Medica, which says:

"Smyrna opium, which is the one ordered in the British Pharmacopœia, contains from 3 per cent. to 13·5 per cent. of morphina," and further on we read "Opium is brought into the market of very unequal degrees of purity, chiefly in consequence of its having been subjected to adulteration, and partly perhaps from the employment of different methods of preparation. Moreover, its consistence is by no means uniform; that of some kinds being quite soft, and of others hard; the Smyrna opium being generally much softer than others. As this difference depends on the presence of unequal quantities of water, an obvious variation of strength is the consequence. Moreover, the quantity of morphina in good opium of different or even the same localities is by no means constant. Furthermore, opium, from which the morphina has been extracted, has been fraudulently introduced into
A physical examination of opium will frequently detect impurities as leaves, bullets, stones, fruits, &c. If a decoction of the suspected opium be made and strained, various foreign matters are left on the sieve. In this way, I obtained 600 grains of small stones and gravel from ten ounces of opium."

I quote this because what is true of opium is true of every other vegetable drug in the Pharmacopoeia, so that such excellent drugs as digitalis, belladonna, hyoscyamus, &c., are totally unreliable, and we find the best and most thoughtful physicians driven to prescribing Battley's solution of opium because it is supposed to be standardised, and is it any wonder that our older physicians, who by the way prescribe much better than we, begin to doubt the action of good remedies, which have been thoroughly studied by excellent men, who have worthily laid the foundation of the science of medicine; and is it a matter for surprise that at one time digitalis will steady down the action of the heart, and at another time have no effect at all; or that belladonna in a moderate dose on one occasion has no effect, but on another occasion produces dilated pupils, dry mouth, and all the symptoms and signs of belladonna poisoning. It is time we asked ourselves where are we drifting to, and how are we carrying on the work of the good men who have gone before us? the accounts of whose work gives one the keenest pleasure to read, by virtue of their conscientious accuracy and attention to detail.

There is one thing certain, and that is, that if the older drugs and chemicals were supplied as they used to be, that is to say, that if the drugs supplied were the same as those used by the founders of our therapeutic art, the Pharmacopoeia would be about half its size, and that medicine would be practised in a far more rational way. Unfortunately, we are almost daily pestered by some plausible agent who introduces some elegant but useless remedy, and the physician swallows all he says en masse, and forthwith deserts his Pharmacopoeia entirely, and as a consequence, soon forgets what little he ever knew of the art of prescribing; and if one remonstrate with such a practitioner, he will probably say—"Well, one thing is as good as another, and you know there is nothing in medicine." All I can say is this, that such a man is, in my opinion, much lower in the moral and social
scale than the quack, because the quack does persuade himself that his remedies are beneficial to his patients.

To prove how unreliable some of these patent things are, a gentleman whose word I can thoroughly rely upon, told me that certain quinine pills had passed through the alimentary canal unacted upon. Doubtless, the gentleman who prescribed these would tell you that he had no faith in quinine. Again, only a few days ago I called to see a patient for another physician who was out of town. The poor little nurse was in great trouble because the patient's temperature would keep at 104°, notwithstanding the fact that she had been getting 5-grain quinine pills every four hours for some time. I stopped the pills, and ordered fifteen grains of Howard's quinine in solution, with hydrobromic acid, and a little tincture digitalis. The result was simply charming, for she broke out into a perspiration, and the temperature fell two or three degrees in a short space of time.

It may, of course, be necessary to order quinine in pills, but if so, I prefer to have them made up fresh, instead of giving pills as hard as plaster of Paris, and probably about as beneficial. But the local pharmacists should endeavour to improve their methods, and thus keep out these elegant but often useless so-called remedies. These preparations often remain for years after they are made in one place and another.

I would strongly advise students to take a greater interest in pharmacy and the art of prescribing, which is becoming quite a forgotten one, and would point out to them that, as a rule, the successful practitioners are those who prescribe secundum artem, and thoroughly believe in what they are ordering. We have the weapons to cope with most diseases, if properly used, and it is our duty to see that we keep ourselves strictly alive to the necessity of following up the excellent work begun by our predecessors.

If a firm of pharmacists were to go in for standardising preparations, they would deservedly obtain the confidence of a large number of physicians, and the number of patent medicines used would be much less.

To sum up:

(1) There should be only one quality of a drug or chemical for internal use, and that quality the purest obtainable.
(2) It is more necessary to inspect effectively such important chemicals as chloroform and ether, than brandy, and they should be carefully tested before use.

(3) It would be better to attend twenty-five hospital patients thoroughly, than one hundred badly, that is, with unreliable remedies.

(4) Before condemning any remedy, see that you are using a sample above suspicion.

(5) If impurities can creep into the goods of responsible and conscientious firms, what may happen with irresponsible people, destitute of morality, and without any check upon them.

(6) This brings us to the conclusion that many of our drugs and chemicals must of necessity be impure and useless.

(7) The preparations of even our best pharmacies are in many instances unreliable, and not uniform in strength, because not standardised.

(8) The surgeon should have the feeling that his antiseptics are quite above suspicion, and great care is necessary when using expensive chemicals like iodoform, the temptation to adulterate which is great. Personally, I am inclined to think that lives are lost through inferior antiseptics getting into use, and only the purest should be used.

(9) If it be impossible to maintain the strength of volatile preparations, let us have them in the most stable strength, and increase the dose to correspond with the deficiency.

(10) If the pharmacist expect the physician to prescribe preparations of such drugs as opium, he must endeavour to have them uniform in strength.

(11) The physician should confine himself to the Pharmacopoeia as far as possible, and decline to order all the patent medicines brought out from time to time, and the pharmacist should make things up as elegantly as possible, without detracting from their actions.

(12) Many of the nicely got up patent medicines cannot possibly retain their virtue when kept for an indefinite time.

(13) Patients should be educated to understand that cheap medicine is not reliable, and hospital committees should be cautioned about the danger of using cheap drugs and chemicals.
(14) Undoubtedly much of what is described as idiosyncrasy is due to irregularity in the strength of the drug or chemical used.

(15) If our anaesthetics, antiseptics and serums be unreliable, we are almost in the same position as we were before their discovery.

Regarding the Remedy.

I should like to see all Medical Societies combine, and am certain that if they did so, and put the matter upon a proper footing, something could be done to remove this undoubtedly unsatisfactory state of things. I believe that the laws regulating the sale of these articles work well in other countries, such as France and Germany, and it is our duty to move in the matter, remembering that there are errors of omission as well as commission, and recognising the fact, that in all probability numbers of lives are lost yearly through our apathy, in proof of which one need only mention again the unsatisfactory condition of the serums, until recently implicitly trusted in by a large number of practitioners.

Finally, we have a Medical School, of which every Victorian should feel proud, with an excellent staff of teachers. We have the best College of Pharmacy in Australasia, so that pharmacists are thoroughly trained. But what good is all this if there be a missing link in the chain, that link being the absence of proper materials with which to work. Without these, it is impossible to practise medicine and surgery in a satisfactory manner.
Clinical and Hospital Records.

"Imperat, ecce, suis nova nostra Australia doctis,
Quod discis, comites, jussus ab arte, doce."

DIABETES AND GLYCOSURIA IN NEW SOUTH WALES.

By Angel Money, M.D., F.R.C.P. Lond.

OF SYDNEY, N.S.W.

During the four years of my practice in New South Wales, I have taken a few notes of thirty-seven cases of glycosuria. Of these, twelve only were genuinely diabetic; in the remaining twenty-five, the glycosuria was but a side product of other morbid processes. Of the genuine cases, one was aged 17; two were 22; two over 40; two over 50; 4 over 60; and one over 70. Seven were males, and five females. The disease was severe or fatal in five cases only. A brief summary of these may first be given.

Mrs. M., a Jewess, aged 66, a patient of Dr. H. G. A. Wright, was first seen by me on January 21, 1893. She had previously been laid up for a week or so, on account of left-sided pleurisy. On January 20 she was out driving, and returned cold and shivering. On January 21, at 4 p.m., the pulse was 100, the sublingual temperature was 100° F.; the complexion was sallow; the breath sweet; there was some drowsiness; she complained of bad pain in the epigastrium; vomiting and shivering had occurred twice during the day; the physical signs pointed to pneumonia of the left base; the breathing was thirty-six per minute, frequently sighing and attended with yawning. The knee-jerks could not be obtained; the twenty-four hours' urine could not be collected; a specimen obtained on the morning of January 22 gave a sp. gr. of 1032, yielded 10 grains of glucose to the ounce; ferric chloride solution gave a crimson-red coloration, readily discharged by the application of heat. The temperature never rose above 101° F. Increasing drowsiness without convulsions, but with two more rigors, was followed by death on January 25. The epigastric pain, though possibly due to pleurisy, was almost certainly premonitory of diabetic coma. The diabetes had been of
at least two years' duration. The patient was a heavy eater. The coma was very probably due to a chill caught whilst out driving.

H. C., a Jew, aged 57, seen in consultation with Dr. Clubbe, on October 7, 1893. The dominant symptom since the commencement of the illness in January 1893, was a sinking feeling at the epigastrium; great weakness; tubercular disease, chiefly of the left lung; troublesome nocturnal cough; great heat of body, whilst "his knee-caps feeling quite cold," diminished knee-jerks; no retinitis; anorexia—were the chief notes taken. The urine was 1040, and contained at least 16 grains of glucose per ounce. He died comatose on November 21, 1893. His father died of diabetes at the age of 57.

F. C., an Irish lady, aged 22, a governess, first seen on September 14, 1893. Thirst was the first symptom, five months previously; drowsiness; frontal headache; raw, dry, beefy-looking tongue; constipation; dilated stomach. Urine 1040 to 1050; no albuminuria; 20 to 30 grains of glucose per ounce. Quantity varied from 4 to 8 pints. Xanthoma diabeticorum was noted on February 15, 1895. Severe and obstinate pruritic vulvae developed on December 31, 1894. Edema of both legs was complained of on August 28, 1895. She lost nearly two stone in weight from the commencement of the disease to the end of December 1896. The knee-jerks had disappeared on August 28, 1895.

R. D. G., a boy aged 17, a patient of Dr. Collingwood's. Six weeks before my seeing him on March 19, 1895, he had had tonsilitis; a rare, though recognised cause of diabetes. He had been thirsty for four weeks. A tired feeling; left supra-orbital pain; voracious appetite; mouth being filled with a slimy stuff, were his chief symptoms. He passed eight pints in twenty-four hours; sp. gr. 1030, ten grains to the ounce. Opium did some good, and he gained 7 lbs. in weight in two months. The knee-jerks were present.

E. A. L., a Jew, aged 22, seen on January 11, 1896. Debility, polyuria, polydipsia, and xerostomia, with pain about the heart, were the main symptoms. The knee-jerks were absent; he also had pains in the limbs. The liver was enlarged. He passed
seven gallons a day; sp. gr. 1030. On June 17, Dr. F. A. Pockley informed me that a double cataract had rapidly developed.

The following three cases may be regarded as gouty glycosuria:—

J. P., a heavy, stout, florid man, aged 65, seen in consultation with Dr. Cohen, on November 13, 1893. Alcoholism and gouty arthritis of many years' duration. The chief complaint was pain in the abdomen, thought to be colic. A bluish erythema was diffused over the trunk. Profuse perspirations. The tongue was loaded and dry. The heart was excessively irregular, but acting very rapidly; the apex beat one inch outside the nipple line in the fifth space; the sounds were of tic-tac quality. The feet, head, and hands were cold; he preferred to keep the thighs flexed. He had had albuminuria and glycosuria for many months past. The case was at its termination a low form of peritonitis, such as is not uncommon in cachectic conditions, Bright's disease, and diabetes. The behaviour of the heart reminded one of the alcoholic heart.

J. B., a male aged 73, first seen on January 15, 1895. He complained of stiffness of the hands, pains in the neck, feeling of deafness and stupidity. The lips were somewhat blue. Urine 1027, a trace of albumen, and five grains of sugar to the ounce. On February 2, urine 1030; still a trace of albumen, six grains of sugar to the ounce. He was a very free drinker of port wine and whiskey. The liver was not enlarged.

A. C. F., aged 66, a lawyer. Had a gouty, irregularly-acting heart, with gouty joints; valvular defects of the heart could not be defined. He suddenly developed left hemiplegia on September 2, 1896. Glucose was present in small amount; the urine was free from albumen. There was no recovery from the paralysis. Periods of apnea and Cheyne-Stokes breathing preceded death for some weeks. There was marked drowsiness and sometimes coma, probably mainly attributable to the brain condition with the feeble circulation.

In two other cases paralysis developed.

Mr. S., aged 64, seen in consultation with Dr. Watkins, at Manly. He had had diabetes for four years, and one week before I saw him he developed hemiplegia of the right side; it was clear also that he had hemianæsthesia and hemianopsia. He died a day or two later.
Mrs. W. C., aged 62, first seen on May 14, 1895. Had had diabetes two years, and her eyesight was bad. The worst symptom was neuralgia of the left lower jaw. There was a goitre chiefly of the left lobe. The glucose could be easily kept out of the urine by strict diet. On January 31, 1896, she suddenly developed right hemiplegia; from this, she made a fairly complete recovery.

In two other cases the intractable neuralgia was the cause of a consultation.

Mrs. D. Z., aged 68, a patient of Dr. Frizell's, seen on July 25, 1895. She had had diabetes for ten years. There had developed for seven weeks severe occipital, auricular and infra-maxillary neuralgia, which resisted all treatment. There was an exostosis of the left upper maxilla, and a rodent ulcer of the left cheek. Symptoms referable to bulbar paralysis supervened, and death occurred on August 8. An autopsy was not allowed.

Mrs. R., an Irish lady, aged 56, suffered severely from pain in the right eye and side of the head. She had a high tension pulse, and I expected to find albuminuria. She passed not more than three to four pints a day, sp. gr. 1026. Acne rosacea and constipation were the other symptoms. Opium, with a strict diet, and aperient pills freed the patient from the glycosuria and the neuralgia, and she is doing well. I may say that she had been under medical treatment for months, and glycosuria was not once suspected. The knee-jerks were present.

Two cases of writer's cramp had intermittent and trivial glycosuria.

H. B., a merchant, aged 26, had always written badly, even at school; sometimes had a difficulty in articulation; the letter "r" was turned into "str." The radial and triceps reflexes of the right arm were marked; in contrast with those absent on the left. Tremors were easily induced in the hands. "My hands will be trembling when nothing else is." The knee-jerks were about normal. Three years before, glycosuria had been observed. I found a small percentage on one occasion out of four examinations; sp. gr. 1026.

E. B. C., bank inspector, also had writer's cramp, and on two occasions I found small quantities of sugar in the urine, not more than five grains to the ounce.
In one case of severe neuralgia, which may have been due to syphilis, in a young unmarried woman, aged 26, I found a urine, sp. gr. 1034, containing ten grains of sugar to the ounce. The knee-jerks were greatly exaggerated; there was an ankle clonus on both sides. She complained of shooting and burning pains of the utmost severity in thumb and first fingers of the right hand. A doctor had said that he could do nothing for it but stretch the nerve. She improved rapidly after free inunction of ung. hyd.; the pain and glycosuria completely disappeared. I considered that there was some cervical pachy-meningitis.

In one case of very chronic tabes dorsalis, a slight glycosuria existed from time to time. At times also there was excessive phosphaturia. W. A. T., aged 36, was seen in consultation with Dr. Bowker, sen., for severe pain in the right hypochondrium—evidently a visceral crisis. He had irregularity of pupil, absent knee-jerks, and lightning pains, with very slight static ataxia.

In two cases, a mild glycosuria was associated with obesity. A French priest, aged 49, complained of pain and heaviness in the left side; feeling of exhaustion which quite unfitted him for any exertion. The abdomen was very unwieldy, there being a great accumulation of fat in the omentum. The urine was 1032, and contained six grains of sugar to the ounce. A strict dieting was followed by great improvement.

An Irish priest, aged 46, complained of headaches and great irritability of the bladder. His abdomen was obese. The urine was only 1020, but contained five grains of sugar to the ounce.

In two other cases, obesity was combined with bronchitis and glycosuria. G. M. a merchant, aged 48, had an attack of gout in the big toe four years previously to visiting me. The urine was 1018, and contained five grains to the ounce. There was marked bronchitis of the larger tubes.

Alderman G. P. B., aged 50, had suffered for four years from bronchitis and asthma, the outcome of working in dust mills. The urine was of sp. gr. 1030, and contained ten grains to the ounce.

In several other cases, the glycosuria was a side symptom of nervous trouble.
W. A. S., male, aged 31, had had much business worry. He complained of sensations of uneasiness in the epigastrium; no pain. He felt strange in himself. He had been confined in Callan Park Asylum in September last for a week. The sp. gr. was 1032, but did not contain more than five grains to the ounce.

Two days later, there was a trace of albumen, but no sugar. This patient has come under my notice twice since, but his urine was normal. This was evidently a case of slight glycosuria, associated with mental instability. Although he may have taken alcohol in quantities greater than was good for him, he was by no means an alcoholic.

M. D., aged 50, was hypochondriacal, and complained greatly of his heart and bowels and indigestion; this followed influenza two years before February 15, 1896, when he consulted me. He suffered severely from insomnia. The only physical sign of disease was glycosuria, not more than five grains to the ounce, and this was intermittent, being frequently altogether absent.

T. S., a boy aged 7, complained of being tired and sleepy; feverish. He had been a delicate child all along. Physical examination revealed nothing abnormal, except urine sp. gr. 1032, with six grains of sugar to the ounce. No albumen. There was no wasting, no thirst, and no hunger. The next specimen examined was free from sugar.

H. B., a jockey, aged 27, had a fall at a steeplechase, and had been melancholic for five months. Five grains of sugar to the ounce; sp. gr. 1030. He was sleepless, irritable, and developed suicidal tendencies.

V. S., a girl, aged 19, had illusions—"sees a woman in a nightdress, who touches her on the soles of her feet." She had had adenoids removed from naso-pharynx. There was lateral curvature, weakness of both internal and external recti, and the right pupil was larger than the left. The anterior part of the head was poorly developed. Urine sp. gr. 1028; about three grains of glucose to the ounce.

B. F., a boy, aged 7, suffering from bronchitis, with adenoids, which caused nasal obstruction. He looked stupid. Urine 1030, about 8 grains to the ounce.
G. P., a girl, aged 21, had suffered severely for two years from leucorrhoea. There were anaemia, mitral regurgitant and pulmonary systolic murmurs, pain in the back, and indigestion; bad temper, mental confusion, bad memory, headaches, and trembling feelings. Urine, sp. gr. 1030, 5 grains to the ounce; often examined; sugar generally absent; apparent excess of phosphates generally present.

E. P. C., aged 60, a merchant, complained of bad temper, feeling miserable, bad taste in the morning, palpitation, and rheumatism. Urine, sp. gr. 1022, contains a trace of albumen, and also five grains of sugar to the ounce.

In one case of a girl, aged 7, there was abundant evidence of cerebral tumour of chronic course (probably tubercle), since the duration was over two years. Urine of sp. gr. 1024, contained five grains of sugar to the ounce on several occasions.

In two cases, albuminuria alternated with glycosuria; rarely the urine was free from both abnormal ingredients. Both were males, one over 60, the other 59. Both were large framed; one, the elder, was abstemious, though a wine merchant; the other confessed that to wine and women he was addicted; he had also had gout twenty-six years previously. The former passed successfully through a severe attack of perforative appendicitis.

Mrs. C., aged 45, complained of "rheumatism," which came and went "so quickly;" she was feverish with it; the fingers became stiff and painful; she was losing all her colour; salicin relieved the rheumatism after a time. The sp. gr. of the urine was 1030; it contained five grains of sugar to the ounce; no albumen. The glycosuria was inconstant.

Mrs. P., aged 72, had been liable for many years to attacks of vomiting and diarrhoea, and nearly died from one which was of a dysenteric character. She, at other times, passed large quantities of water, and had a high tensioned pulse. The sp. gr. was 1020, no albumen, but at times a small percentage of sugar.

Mrs. M., aged 61, suffering from mitral disease and large liver, with varicose veins in the legs, and rheumatoid arthritis of both knees; had a low sp. gr. of urine 1010, to pass which she had to get up every night; still it contained four grains of sugar to the ounce at times, but no albumen.
Mrs. S., aged 34, a victim to chronic asthma and bronchitis, had chorea when a child. The right kidney was freely movable. On one occasion the urine was 1030, with five grains of sugar to the ounce, and on two other occasions there was no sugar, but a trace of albumen, and plenty of lithates.

Mr. E. C. G., aged 39, was told that he had a cancer of the bladder; he passed spirals of mucus in the urine, which was occasionally of high density, 1030, and contained, at least twice, about five grains of sugar to the ounce. The case could hardly be described as anything else than neuralgia of the bladder. His health mended considerably, but he frequently comes for medical advice about pains and morbid sensations in other parts of his body.

The last case to be mentioned is that of A. G. K., aged 40, who had a severe attack of jaundice due to gall-stones; the day prior to the appearance of the jaundice, and after the onset of the pain, the urine had a specific gravity of 1030, and contained a few grains of sugar to the ounce.

THREE CASES OF INFANTILE SCURVY.

By Angel Money, M.D., F.R.C.P. Lond.

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Of Sydney, N.S.W.

The only reason for publishing the brief notes of these cases is the fact, that the doctor in attendance on each did not recognise the nature of the disease; so that it cannot be right to say that we have had infantile scurvy enough in medical literature.

The first was a male child, aged 12 months. The diagnosis was rickets and purpura. On being seen by me there were present proptosis and ecchymosis of both eyes, swelling and tenderness of both thighs, spongy bleeding gums; the ribs were decidedly beaded; the temperature in the rectum was 103.5°; restlessness, vomiting of blood, and cough were other symptoms. The patient recovered rapidly on anti-scrotal treatment. The elevation of temperature was probably due to the absorption of a blood ferment acting as a pyrogenic agent.

The second case was a male child, aged 13 months. It had been breast-fed for two months, and since then had been brought
up on various proprietary foods. The gums were purple and enormously hypertrophied, and tags hung down between the four incisor teeth. Some bossing of the parietal bones of the skull gave it a natiform shape at the back; no beading of the ribs; child very restless and peevish. No actual loss of power in any limb, but it could not sit up, and preferred to keep quite still; did not crawl. There was a history of rash about the nates. The spleen was not enlarged. The first child died, and the patient was the second, and last in family. The diagnosis had been ulcerative gingivitis, and treatment had been carried out for two months. In this case, syphilis and scurvy were co-operative. Anti-syphilitic and anti-scrobutic treatment gave an excellent and rapid recovery.

The third case was also a male child, aged 7 months, an albino; fed entirely on Allen and Hanbury's first food for infants. It had a pair of black eyes, with proptosis. I was asked to see it because though the doctor knew it had rickets, he could not explain the loss of power in both legs. There was no ecchymosis of the gums, because the child had no teeth. The ribs were beaded; the spleen could not be felt. Considerable anaemia, and marked tenderness of both legs and thighs were noted. The knee-jerks were easily obtained, and this is always the case in the pseudo-paralysis due to scurvy. In this case, also, the administration of orange juice and raw meat juice were followed by rapid recovery.

A CASE OF APICAL PNEUMONIA AND CEREBRAL SYMPTOMS ASSOCIATED WITH WORMS.

By E. H. Robison, M.B., Ch.M.

House Surgeon, Hospital for Sick Children, Sydney, N.S.W.

The following case of pneumonia seems to be not without interest:—

M. S., aged 4 years, was admitted to the Sydney Hospital for Sick Children on July 23, 1896, under the care of Dr. Angel Money.

The parents stated that the child had been ailing for one week. The illness commenced with feverishness, vomiting, and a cough.
which was more troublesome at night. The bowels had been opened regularly. The child looked ill and anaemic; she was drowsy, but irritable if disturbed; tongue furred; temperature 99°; pulse 140; respiration 30; angles of mouth cracked and sore. Examination of the chest revealed a dull percussion note over the upper part of the left lung, with distinctly tubular breath sounds, but no accompaniments. There was dulness also over the upper left lung posteriorly. The abdomen was lax and easily palpated. The spleen was not enlarged.

July 24.—There was marked jactitation, the child throwing herself about and uttering a squeak; there was some difficulty in swallowing, liquids gurgling in the throat; the temperature rose to 103.2°, respirations to 60, and the pulse to 180. A drachm of brandy every hour was ordered, and the child put on the following mixture:—B. Ammon. brom. gr. v j, ammon. carb. gr. j, liq. strych. m. j, liq. ext. glycy. m. x, aq. ad. 3 ij; quartis horis.

July 25.—The temperature fell to below the normal, the symptoms remaining much the same, and pointing to a marked cerebral disturbance. These symptoms might be attributed to the apical pneumonia. They continued for some days.

July 28.—Passed a large round worm. The right parotid gland became enlarged and tender. The temperature, which had remained below normal since the 25th, rose to 100°.

July 29.—Was somewhat better, swallowing with less difficulty, and seeming more comfortable. A powder containing santonin and calomel had been given, and the child passed a round worm. Temp. 100°.

July 30.—Passed seven round worms.

July 31.—There was still dulness over the left apex, in front and behind; but the breath sounds were merely harsh, not tubular. Angles of mouth still sore. Temperature still sub-normal.

By August 4, the child had passed in all twenty-one round worms. The temperature, notwithstanding the marked pneumonic signs, had only been above the normal on three days, and on two of those it rose (to 100°) coincidently with the enlargement of the parotid gland.
The child was discharged cured on August 15th, the physical signs having cleared up.

On the 30th December, the child was re-admitted, suffering from cough and malaise. Examination showed a dully tympanitic percussion note over the upper part of the left lung, and tubular breath sounds. Breathed with short expiratory gasps; respirations 40; pulse 120; temp. 99°.

On the 31st, signs still very marked, but the percussion note had lost a good deal of its tympanic tone, and there were a few râles; the temperature was sub-normal.

After this, the signs gradually cleared up, the chest, when the child was discharged, being absolutely normal. The temperature throughout the attack being sub-normal, excepting one day on which the child had slight diarrhoea.

In this case, the practically sub-normal temperature during a definite attack of pneumonia is worthy of remark, especially as the phenomena recurred in a subsequent attack. The marked cerebral disturbance was at first attributed to the apical pneumonia, and afterwards, I thought, was well accounted for by the round worms which the child passed in such numbers.

REMARKS BY DR. ANGEL MONEY.

As to the respective shares, if any, taken by the worms and the pneumonia in the production of the cerebral symptoms, I do not feel competent to determine. It would hardly be fair to call the case one of cerebral pneumonia, because the physical signs and some other symptoms of pneumonia were not latent during the early stages. The behaviour of the child was very peculiar, and, in my experience, very rare. It was not only irritable and difficult to feed, but the irritability was excessive, and attended with a peculiar squeaking, not shrieking, sound. The anorexia amounted to actual active disgust at being asked to take food. At one time, the cyanosis was very marked, and yet the physical signs were limited to the left upper lobe. The sister in charge considered that the case resembled one of meningitis. In these respects, the name of cerebral pneumonia was deserved, but the fever never ran very high, and was remarkably transient. Osler and others do not think that apical pneumonias are specially
liable to extraordinary cerebral disturbance. This is not my experience, and I would draw attention, in this regard, to some statistics I collected in the R. Med. Chi. Trans. for 1889.

NOTES OF A CASE OF CYSTIC DISEASE OF THE LIVER AND KIDNEYS.

By J. A. Reid, M.D., M.B. et Ch.M. Aberdeen.

[Read at the February Meeting of the Medical Society of Victoria.]

Hans J., aged 62, consulted me on account of a pain below and a little to the right of the left nipple. He had been in failing health for about twelve months, and looked feeble, pale, and somewhat cachectic.

Physical examination revealed the liver area much increased, and when he was in the erect position there was a very marked prominence in the epigastrum, which was dull to percussion and tender to touch. There was dulness at the back of both lungs, and small crepitation was heard at both bases. The lower part of the thorax was expanded in a peculiar manner, as if the liver had increased equally in all directions, giving the body somewhat of a barrel-shape. The urine contained a trace of albumen, and the quantity of urine passed was stated to be about the normal. The heart sounds were perfect.

The opinion given was that he had a large hydatid cyst in the liver, and this was much strengthened by our then learning that he had coughed or vomited up some hydatid cysts several years before. An exploratory incision was made over the prominence in the epigastrium, and a large cyst opened on the upper surface of the liver, which contained what looked like hydatid fluid. There were, however, neither hooklets, parent, nor daughter cysts found. Its upper limit was to the left of the sternum, just at the spot where the pain had been most acute. The pain, by the way, at this spot was felt most severely in the recumbent posture.

The man lived for about a week, but became gradually more and more feeble. A very free flow of bile took place from the cyst cavity for some days.
While the abdominal muscles were relaxed under the influence of chloroform at the operation, a tumour about the size of an orange was felt in the left flank. It was freely movable within certain limits. It was not interfered with, and as the sequel showed, it was just as well.

At the post-mortem examination, these two enormous conglomerate cystic kidneys were found, and it was then seen that the tumour in the left flank was a lobe of the left kidney. The liver was very much enlarged from the same cystic degeneration, and the supposed hydatid was simply one of those cysts. Portions of the liver shown convey a very fair idea of the degenerative process which had taken place. I do not think that the operation hastened the patient's death, and in the absence of the knowledge gained by the post-mortem examination, I think I should pursue the same course had I the case under my care again.

A preliminary aspiration or puncture might have been undertaken, but the information to be gained by it would have been chiefly negative, and some years ago I had such a severe lesson, in puncturing a case, by losing the patient, that I now never puncture or aspirate a hydatid unless I am prepared to completely remove the cyst at once.

Medical Society of Victoria.

ORDINARY MONTHLY MEETING.

WEDNESDAY, FEBRUARY 3, 1897.

(Hall of the Society, 8 p.m.)

Dr. J. Talbot Brett, President, in the chair.

One medical practitioner was nominated for membership.

The following gentleman was elected a member:

John Cam Wight, M.B. et Ch.B., M.R.C.S. Eng., of Kyabram, Victoria; proposed by Dr. C. H. Mollison, seconded by Mr. Fred. D. Bird.

Dr. Paul Ward Farmer read a paper on the "Purity of Drugs and Chemicals." (See p. 69.)

Dr. Balls-Headley said that it was of the utmost importance that the practitioner should be sure that the drugs he used as weapons
against disease are pure and constant in strength. Perhaps some present-day scepticism in regard to the efficacy of drugs in treatment is owing to lack of certitude on these points. He referred to the occurrence of vomiting after the administration of anaesthetics—sometimes a very serious complication of operations—and suggested that it might sometimes, at any rate, be due to impurities in the anaesthetic. It was obviously impracticable that the general practitioner should himself test the drugs he used, and he held that this duty undoubtedly devolved upon the Government, who should see that some efficient method of standardising is adopted. He hoped that there would be a practical outcome from the reading of the paper, and would therefore move—"That a sub-committee, of the committee, be formed to receive reports from Dr. Farmer and others, on the purity of drugs, with analyses, and to report results to the committee, and then to the Society."

Dr. Hamilton seconded this.

The President made a few remarks endorsing the views of Dr. Farmer and Dr. Balls-Headley, and the motion was carried.

Dr. Farmer briefly replied.

The Secretary read "Notes of a case of Cystic Disease of the Liver and Kidneys," for Dr. Reid, of Sale. (See p. 90.)

Dr. Balls-Headley referred to a similar case of cystic disease of the kidneys, which occurred in his own practice. On opening the abdomen, the left kidney was found to be replaced almost completely by a huge cyst. The right kidney was sought for in order that its condition might be ascertained, but no trace of it could be found. The left kidney was then removed. The patient lived several days, but did not pass a single drop of urine. She appeared to suffer no pain, and gradually sank and died. On post-mortem examination, the right kidney was found to be atrophied, and to consist of two little sacs, little if any secreting structure being left. The case illustrates the importance of ascertaining the condition of both kidneys before removing one of them, and also presents features interesting to the physiologist.

The President moved—"That the congratulations of this Society be offered to Lord Lister on his elevation to the Peerage."

Mr. T. N. Fitzgerald seconded this motion, and Dr. J. P. Ryan supported it. It was carried unanimously.

Dr. W. Moore moved the following resolution—"This Society approves of the action of the Charity Organisation Society in exposing an irregularity in the management of the Dr. Singleton Free Medical Mission Dispensary, and of its demand that the treatment of the dispensary patients should, in accordance with the law, be placed in the hands of legally qualified medical practitioners."
Dr. Boyd seconded the motion, and it was carried unanimously.

Dr. Cherry gave an account of the methods of sero-diagnosis in typhoid fever. (See p. 53).

Drs. Cherry and Mollison gave a demonstration of the action of the serum of typhoid patients on broth cultures of the bacilli, and on their motility.

**EXHIBITS.**

Dr. Mollison showed the following specimens:

For Dr. Reid, of Sale.—**Two Cystic Kidneys and Portions of a Liver affected with the same condition.**—The kidneys were much enlarged, and were converted into a congeries of cysts, some of considerable size. This condition is generally supposed to be congenital, but very little is known about its causation. As a rule the kidneys are alone affected, but sometimes the cysts are found in the liver also.

**The Uterus of a Cat.**—This specimen was removed from a cat which had a large abdominal swelling, and as the expected kittens did not appear, and the animal was evidently becoming very feeble, it was killed. The uterus was found to be enormously distended, its several compartments forming large sausage-shaped tumours; altogether it contained 55 ozs. of a brownish fluid. On examining the vagina, it was found to be completely closed near the orifice. The cat being a stray one, no history could be obtained. I am indebted to Dr. Buchanan, of Collins-street, for the specimen.

**Two Kidneys with Calculi.**—These organs were removed from a girl 12 years of age, who died under chloroform during an operation on the right kidney. The pelves and calyces were dilated, and contained foul purulent urine, while numerous small abscesses were scattered through the cortical substance. Embedded in the calyces were several large branching phosphatic calculi.

**Tubercular Disease of the Humerus.**—This specimen presented a somewhat uncommon example of tubercle of bone, as the site of the disease was not in the neighbourhood of a joint, but nearer the middle of the shaft. There was considerable destruction of the bony tissue, with formation of soft cheesy matter, and very slight violence would have produced a fracture. The periosteum had formed a quantity of new bone around the site of the disease; this is also decidedly unusual in tubercular affections. Mr. T. N. Fitzgerald kindly sent me this specimen.
GYNAECOLOGY.

EARLY DIAGNOSIS OF MALIGNANT DISEASE OF BODY OF UTERUS, AND ITS TREATMENT BY OPERATION.—Frederick Bowreman Jessett, F.R.C.S., has an interesting paper on this subject. He first points out that, until very recently, it was considered that malignant disease rarely attacked the body of the uterus. A perfunctory examination led to an erroneous diagnosis, the cervix and os appearing normal, or only slightly eroded, the haemorrhages were merely looked upon as evidences of the change of life. An important difficulty is the obscurity of the symptoms in some cases. The important fact is occasionally lost sight of, that extensive disease may co-exist with trivial symptoms. The remedy lies in "early and thorough examination in every case in which there is anything abnormal, no matter how trivial, in the material functions of the uterus," more especially during or after the climacteric. At the same time, it must not be forgotten that younger women are not infrequently the victims of malignant disease of the body of the uterus. In fairly advanced cases, the diagnosis of malignant disease of the uterus (cervical and corporeal) is for the most part sufficiently easy, but in the earlier stages, a mere digital examination will reveal little. The cervix must be exposed by a speculum, when "the os will often be discovered to be eroded and redder than normal, an unhealthy discharge is usually seen escaping from the os, and if this is wiped away with a pledget of wool, it will be observed to be slightly purulent, and somewhat watery, and perhaps blood-stained, quite different to the ordinary uterine leucorrhoeal discharge." This may have a faint disagreeable odour. On passing a sound, the length of the canal will be found to be increased, and the introduction and manipulation of the instrument causes bleeding. But to make still more certain, Mr. Jessett advises dilatation, with careful curettage of the canal, and the scrapings examined microscopically by a competent pathologist. He at the same time points out the sources of fallacy in arriving at a correct opinion under such circumstances; for example, the scrapings may have been removed from a healthy portion of the endometrium. With regard to treatment, he insists upon the early removal of the whole organ. A detailed analysis of forty-three cases, his total to the end of 1894, is given. There were four deaths from operation, and since that year he has operated on twenty-seven more, with a mortality from operation of two. The after-results were very encouraging, more than 40 per cent. being free from recurrence or secondary deposits for three to two years.
This interesting paper concludes as follows—"In a somewhat large experience in the post-mortem room, I found the lumbar and sacral glands were free from infection in many cases in which the disease was far advanced."—British Gynaecological Journal, November 1896.

Curettage in Obstetric Practice.—Dr. E. W. Mitchell read a paper on this subject before the Cincinnati Obstetrical Society. He considers the subject separately as indicated in abortion or miscarriage, and after labour. In abortion, the curette is preferred to the fingers, because the object can be attained more quickly, with least disturbance to the patient, and in a more efficient manner. If hemorrhage is not severe, it is best to give time for the uterine contractions to dilate the os and detach the decidua, before interfering. If there is profuse hemorrhage, and the os undilated and rigid, the tampon (antiseptic) may be used. But when the os is partially dilated and soft, it is better to complete the dilatation with dilators, and remove the ovum and placenta with forceps, and lightly curette the mucosa, and irrigate with either creolin or lysol.

In neglected cases, when portions of the secundines are retained, and when there is persistent hemorrhage and more or less infection, curettage gives most gratifying results. After labour, at or near term, the two indications for curettage are hemorrhage and sepsis. In hemorrhage, the cavity should first be explored with the finger, and any fragments of placenta or organised blood clot removed. Afterwards, if the hemorrhage does not cease, the curette should be passed carefully over the uterine surface, and the cavity afterwards irrigated. Curettage for puerperal sepsis is a question upon which there is much difference of opinion. The divergence of opinion being probably due to the want of discrimination between cases of true septicaemia and septic absorption. In the former, the micro-organisms gain an early entrance to the uterine sinuses and lymph spaces, and thus produce toxins beyond the reach of the curette; in the latter, the nidus is in the débris in the uterine cavity. Removal of this, removes the source of supply. The answer to all objections to curettage, as applied to both abortion and puerperal septicaemia, is results. In abortion, there is no question but it is the most efficient means at our disposal for dealing with retained products of conception.

In puerperal sepsis, as it is rarely possible to discriminate between a case of true septicaemia and one of sapraemia, the wisest course is to curette early, under strict surgical precautions, and tamponade the uterine cavity lightly with iodoform gauze.—American Journal of Obstetrics, November 1896.

Recent investigations on lumbar puncture are contained in these papers, which were read at the Eighth Annual Meeting of the American Pediatric Society.

Dr. Caillé reports twenty-one cases, and is convinced that the procedure is of positive value as a method of diagnosis. In two cases, an attempt was made to treat tubercular meningitis by injecting fluids into the sub-arachnoid space of the spinal cord; in one case a solution of 15 grains of salicylate of sodium in 5 c.c. of sterilised water was used, and in the other, 5 grains of iodoform, suspended in 5 c.c. of sterilised water, but nothing of any importance resulted.

Dr. Wentworth reports twenty-nine cases, and asserts that the withdrawal of fluid from the sub-arachnoid space, by means of lumbar puncture, is free from risk, and that the normal fluid is absolutely clear and free from all cellular elements and fibrin. In cases of meningitis, the cerebro-spinal fluid is invariably cloudy when withdrawn, the degree of cloudiness being to some extent proportionate to the amount and character of the exudation in the meninges. The cloudiness is due to the presence of cells. After withdrawal, more or less fibrin is formed in the fluid. The presence of these cells and fibrin is pathognomonic of inflammation in the meninges. The differential diagnosis between the various kinds of meningitis can be made by microscopical examination of the sediment, by cultures taken from the fluid, and by inoculation experiments on animals, the latter forming the surest means of determining tubercular meningitis. Tubercle bacilli are hard to find with the microscope in cerebro-spinal fluid; they were found four times in six cases of tubercular meningitis. The puncture is usually made between the second and third or third and fourth lumbar vertebrae, the patient lying on his right side, with his back flexed and forming an obtuse angle with the table or bed. A sterilised antitoxin, or exploring needle is used, with or without the syringe attached. Slight pain is caused by the puncture, and care must be taken to avoid breaking the needle in the back, as occurred in one case. The fluid flows drop by drop, and may be collected in a sterile test-tube for examination. No influence is produced on either the symptoms or course of tubercular meningitis by the removal of as much as three ounces of fluid. The method is so far simply an additional aid to diagnosis.
ADHERENT PERICARDIUM AS A CAUSE OF FATAL ENLARGEMENT OF THE HEART.—Dr. Lee Dickinson of London (American Journal of Medical Sciences, December 1896) reviews a series of nine cases where the pericardial sac was found completely obliterated at death. The ages ranged from eight to twenty-one, averaging about fifteen years. In five, the pericarditis occurred in childhood. Four of these five had advanced valvular disease, and died at the early ages of thirteen, sixteen, eighteen, and twenty-two years respectively, with great enlargement of the heart, for which evidently the adhesion was partly responsible. The fifth is the one solitary case in which adhesion, certainly contracted in childhood, proved ultimately harmless. Pericardial adhesion contracted in adult life is comparatively unimportant, while in children, it generally proves fatal at no distant time, with great enlargement of the heart. Pericarditis in children is almost entirely rheumatic, and has a considerable immediate mortality. The children who do not die in the acute stage, suffer from enfeeblement and dilatation of the heart, which are kept up by recurrent attacks of carditis; the pericardial surfaces become united by organised tissue, and when the nutrition of the muscle is restored, the heart is fixed in a state of dilatation. Hypertrophy follows, but compensation is never attained. The most striking change in these hearts is the hypertrophy, the weight being twice and often thrice the normal. The dilatation, however, is the essential mischief. All the cavities are dilated, the change being most marked in the ventricles. By a study of the state of the lungs with that of the general venous system, it was found that in five cases the lungs were free from signs of chronic congestion, whilst dropsy was present; in other words, the right side of the heart had failed. The physical signs of adherent pericardium depend upon the heart being so closely connected with the chest wall or diaphragm, that with systole, the precordial parts or lower ribs on either side are pulled inwards. The precordium is often unduly prominent, and occupied by an impulse wide and strong.

Reviews.

Section Cutting and Staining. By W. S. Colman, M.D., M.R.C.P.
London: H. K. Lewis.

This little work, the second edition of which has now made its way from the publishers, is intended by the author as a "Practical Introduction to Histological Methods for Students and Practitioners." The subject matter has been clearly put together, and the methods expounded have been fairly well selected from among the assorted myriads with which the literature of the subject teems, and as the
author points out in the preface, only those which have proved their practical worth have been included.

For a short work on the subject, it must be said that a markedly practical tone pervades it, and its utility must not be measured by its size. Students and practitioners, for whom the work is intended as a practical working guide, are frequently apt to neglect practical pathological work, overawed by the multiplicity of the methods, and the dimensions of some of the volumes which have appeared from time to time, but this production is of such a size that it is at once pocketable, and at the same time more than ordinarily useful.

The practical advice as to the hardening of tissues is sound and neatly put, and his description of the celloidin method of embedding is fairly good.

Fourteen pages are given to descriptions of various forms of microtomes, and thus nearly one-tenth of the book seems too much in so diminutive a work; Cathcart's microtome, or one of its modifications, is quite efficient for most pathological workers.

Amongst special staining methods, those pertaining to nerve structures and blood are well arranged, though rather short, and a short scheme for injection of tissues forms a useful feature of this edition. The author concludes his work by summarising very shortly the usual stains used in normal histology.

A very useful innovation is the placing the English equivalents opposite the metric weights and measures of the substances employed in the preparation of the various staining fluids.

There are one or two subjects which might have been included with advantage, viz., embedding in gelatine, and the mounting of whole parasites in glycerine jelly. A short section on staining on the slide, being a very quick, easy, and effective method of staining, should have been included.

Those who read this little work will not be disappointed, though, of course, for an extended knowledge of the subject, one of the larger works must be consulted. Colman's work, however, will always be worth its place on the table of every practical pathological histologist.

DAVID McM. OFFICER, M.B.

System of Surgery. Edited by Frederick S. Dennis, M.D. Assisted by John S. Billings, M.D. Vol. III.

The third volume of this work is scarcely of the same interest as the preceding volumes to the general surgeon, a large portion of it being taken up with special subjects. Among these special articles are chapters on the Surgery of the Larynx and Trachea, Diseases of the Eye, the Operative Surgery of the Eye, the Surgery of the Ear, and Diseases of the Skin. The volume opens with a very valuable chapter
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Reviews.

on Diseases of the Larynx and Trachea, in which most of the recent advances in this branch of surgery are given their proper place. O'Dwyer's tubes are frequently mentioned, and their use recommended, and over six pages are devoted to a clear and exhaustive account of intubation, the subject being also remarkably well illustrated. The common operation of tracheotomy is also fully and well described and illustrated. In this early part of the chapter there are several small omissions, which should not have occurred in a System of Surgery published in 1896. For instance, there is no mention of the immediate closure of the wound of the trachea in cases of cut throat, as recommended by Henry Morris, and as practised at the Melbourne Hospital by T. N. FitzGerald fourteen years ago. Also, in treating of foreign bodies in the air passages, no mention is made of operative procedures where a pulmonary abscess has developed. In this same chapter, the Diseases of the Naso-Pharynx are also fully dealt with and clearly illustrated. Here again, in dealing with the removal of large naso-pharyngeal growths, no mention is made of the preliminary removal of the upper jaw, osteo-plastic or other.

The chapter on Diseases of the Mouth and Tongue is very clear and concise, perhaps too brief. It contains a description of the somewhat recently described disease, actinomycosis. The description of Epithelioma of the Tongue, and especially of the operative procedures for its relief, are very good, though the writer is probably not in accord with most modern surgeons in the light esteem in which he appears to hold a preliminary tracheotomy or laryngotomy.

A very short, clear and good chapter on Diseases of the Salivary Glands follows. The Diseases and Injuries of the Neck and dealt with in a somewhat unsatisfactory way; important matters are merely mentioned, on the plea that they are referred to elsewhere; and much of the matter is very commonplace. The article on Surgical (sic) Injuries and Diseases of the Chest is a fairly good one, but shows the usual defects of the editor’s chapters. For ordinary matters, that certainly should not be omitted from a System of Surgery, the reader is referred to other works. Inaccuracies and weak statements occur, and some subjects are very inadequately treated. We read that wounds of the chest wall may result from a gun-shot injury, or stab, and may be non-penetrating or penetrating. “Surgical Injuries” at the head of the chapter is rather good. He also says that 75 per cent. of cases of Hydatid of the Lung are fatal, a very startling statement. He disposes of the treatment of Hydatid of the Lungs in five lines, most of which is wrong. Seven pages are devoted to the Operative Treatment of Diseases of the Posterior Mediastnum, for which the reader might certainly have been referred to J. D. Bryant’s Monograph, from which most of it is taken.
There are two chapters on the Eye—one on its Diseases, the other on the Operative Surgery of the Eye. Then follows an article on Diseases of the Ear, in which the work that comes more in the province of the general surgeon than the specialist, such as the complications and sequelae of middle-ear inflammations, is very inadequately treated. The Surgical Diseases of the Jaws and Teeth are not discussed in such detail as would have been expected in such a textbook.

Seventy-three pages are devoted to the Surgical Diseases of the Skin, and this space is not sufficient to permit of these affections being at all adequately dealt with. But the descriptions, though short, are clear and definite, and there are some very good illustrations.

The most important chapter of the volume is that on the Surgery of the Genito-Urinary System, which is written by J. William White, assisted by William H. Furness. The chapter opens with an account of the Surgical Anatomy of the Kidneys, which is brief and to the point. Under the heading “Anomalies of Attachment,” “floating kidney,” and “movable kidney,” are very well and fully described. Then follows an excellent account of Injuries of the Kidney. The section on Renal Calculus is well and clearly written, and the Surgery is of the best. There is also a good and exhaustive section on the Surgical Diseases of the Ureters; it is simple and definite, and embraces the most recent surgery of these structures. Perhaps it is only natural that the Diseases of the Prostate should be treated at excessive length, and that far more space than is necessary should be devoted to castration for enlarged prostate; still the section is a very valuable one. The section on Bladder Surgery is excellent. In it there is a good description of the cystoscope, and the method of using it. In the same chapter, Diseases of the Testicle are described.

The volume ends with a chapter on Syphilis, by that eminent authority R. W. Taylor. It is well written and very complete. Twenty pages at its end are devoted to what the Americans are fond of calling Chancreoid.

This volume is fairly up to the standard of the first two; like them it contains chapters of special excellence, the best, perhaps, in this volume are those on the Diseases of the Larynx and Trachea, and on Genito-Urinary Surgery.

Mrs. Holder notifies that she treats patients requiring massage. She holds an English certificate, which is a sufficient guarantee that patients will be skillfully treated.

Mr. Moreno, masseur from India, announces that he is prepared to treat patients suffering from joint affections, rheumatism, and nervousness, by the massage process.