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SIX YEARS' EXPERIENCE IN ABDOMINAL AND PELVIC SURGERY.*

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The accompanying list which is now presented to the Society contains all my abdominal sections, without any reservation whatever, with the name and age and address of the patient with the disease for which the operation was performed, the nature of the operation and the immediate and remote results, as well as the date and place of operation.

They have all been performed during the last six years, previous to which time I sent all cases requiring operation to more experienced surgeons. It was only after I had been in general practice for sixteen years that I began to feel justified in undertaking so serious a responsibility myself. Up to the 20th November, 1895, the time of writing this, I have performed 143 abdominal sections, with 11 deaths, at the following places:

Private Hospital;	67,	with 5 deaths,	or 7%.
Western "	42,	" 4 "	" 9%.
Samaritan "	24,	" 1 "	" 4%.
Strong's "	2,	" 0 "	" "
Private houses;	8,	" 1 "	" 12%.
Total, 143 sections,		with 11 deaths,	or 7½%.

They were performed in the following years:

In 1890,	4 operations,	with 0 deaths.
In 1891,	8 "	" 1 " or 12%.
In 1892,	12 "	" 2 " " 17%.
In 1893,	23 "	" 3 " " 13%.
In 1894,	39 "	" 3 " " 8%.
In 1895,	57 "	" 2 " " 3½%.

These 143 cases were operated on for the following reasons and with the following mortality:

- Removal of large tumors of the kidney by abdominal section, 2; no death.
- Extra-uterine pregnancy, 3; no death.
- Large ovarian tumors, 8; 1 death.
- Abdominal hysterectomy, 11; 3 deaths.
- Ventral hernia, 7; no death.
- Obstruction of the bowels of nine days' standing, 2; 2 deaths.
- General peritonitis, following miscarriage, 1; 1 death.
- General tubercular peritonitis, 2; no death.
- Cancer of both ovaries, 1; no death.
- Puerperal septicæmia, 1; no death.
- Ruptured pus-tube, 1; no death.
- Trenholme's operation, or removal of appendages for fibroid tumor, 4; no death.
- Pus-tubes, 42; 3 deaths.
- Cystic ovaries and chronically inflamed tubes, 9; 1 death.
- Hydrosalpinx, 6; no death.
- Ventrofixation, including in some cases curetting and repair of lacerated cervix and perineum and removal of diseased ovaries and tubes, 43; no deaths.
- Making a total of 143 cases, with 11 deaths.

Having stated when and where these operations were performed and how many recovered and how many died, I would like to point out that the death rate in 1892 and 1893, of 17 and 13 respectively, was larger than it should have been, owing to my having operated on women

* Read before the Medico-Chirurgical Society, Montreal, 29th November, 1895.

who were moribund with obstruction of the bowels of nearly nine days' duration, one of whom died on the table and the other the same night.

In the first case, I felt at the time that her chances were *nil*, but after consultation with my colleagues, it was deemed right to give her the benefit of the doubt. As I only opened the abdomen 12 times in that year, that one case made my mortality 17, instead of $8\frac{1}{2}\%$. In the second case, which occurred the following year, the patient was a very old woman in the country, who had a strangulated femoral hernia for nine days. The bowel was gangrenous and broke at the slightest touch, and I opened the abdomen in order to remove enough of it to sew healthy intestine to the incision and so make an artificial anus. But her death had nothing to do with the operation. That case raised my mortality that year from 9 to 13%.

Where the operations were performed.—I have come to the conclusion that this makes very little difference, as far as the result is concerned, although the trouble and anxiety for the operator are very much greater in a private house. Of the 8 cases operated on in private houses, all of whom recovered with the exception of the strangulated femoral hernia case, above referred to, there were one abdominal hysterectomy, two very bad tubo-ovarian abscesses, one large hydrosalpinx, one ventrofixation, accompanied with curetting and amputation of the cervix and removal of large cirrhotic ovaries, one removal of very small sclerosed ovaries. Of the two performed at Strong's Hospital, both of whom recovered, one was a hysterectomy for a large fibroid, and the other the removal of a large cystic kidney by the abdomen. Among the 23 who recovered at the Samaritan, were one large fibroid of uterus, one large cyst of the ovary, three Trenholme operations, *i.e.*, removal of the appendages for fibroid tumors, two desperate cases of ventral hernia, and five cases in which, there being menorrhagia and a lacerated cervix and perineum and the uterus being retroverted and fixed by exudation, which at the same time cemented the tubes and ovaries into Douglas' *cul-de-sac*, it was thought best to remedy all these conditions at once, and the uterus was therefore dilated, curetted, the cervix and perin-

eum repaired, the ovaries and tubes removed, and the uterus stitched to the abdominal wall. The highest death rate was at the Western, but that can easily be accounted for; first, because my earliest operations were performed there, and, second, because the worst cases happened to come there. The lowest death rate was at Strong's Hospital, and the next lowest at the Samaritan.

I have honestly tried my best to reduce my death rate, but not by selecting cases. If I had done so, my list would not have had to carry the two cases of obstruction of the bowel. But if this report is to be of any use, it must be absolutely accurate and reliable, and I have therefore put down every case of death. I have here a list containing the name and address of every woman whose abdomen I have opened, as I think it the duty of every one to throw his records open for inspection and verification.

In view of the constant efforts to reduce the death rate which the abdominal and pelvic surgeons are making, an examination of the causes of death has always been of the greatest interest to me. I would like therefore to analyze these 11 deaths, and see how many of them could have been prevented. My first death was a case of very large multilocular ovarian cyst, filled with colloid material and completely filling the abdomen, and adherent to nearly all the viscera. The pedicle was ten inches wide and had to be tied and cut in many segments. There was much oozing from the parietal and visceral peritoneum, which was however arrested by hot sponges. A drainage tube was inserted and a few hours afterwards, when the pulse had gained some strength, red blood began to come from the tube. It was hoped that it would soon stop, but as it continued next day, the incision was re-opened, when a tiny jet of blood was seen to be coming from a tear in the broad ligament between two ligatures. It was easily tied and the abdomen was washed out, but she was too weak to rally and died next day. This accident would probably have not occurred, had we then possessed the Trendelenburg posture, by the aid of which we can inspect every part of the broad ligament and place sutures on oozing points. The operation would hardly have been a serious one if it had been performed early enough.

Abdominal hysterectomy, with three deaths.—

One of these was a case so difficult, that I should have abandoned total extirpation of the uterus and been content with removal of the appendages, which in the four cases above mentioned proved so satisfactory. The uterus was squeezed in between two solid masses of fibrous tissue, which completely filled the pelvis, the right ureter running over the front of it. The two ovarian arteries were tied, but it was impossible to tie the uterine ones until the tumor was first extracted—with the greatest difficulty—so they were clamped and afterwards tied. The peritoneum was sewed over the stumps. The patient reacted nicely and was apparently making a good recovery during the first four days, with a pulse and temperature under 100. At my morning visit she was asking what she could have for dinner. An hour later her condition suddenly changed, her pulse jumping up to 140, with a normal temperature. I was tempted to open her and look for hæmorrhage. But her pulse came down several times under digitalis and strychnine.

She died on the sixth day, and on opening the incision the peritoneum was found clean and nicely healed in both places, and no explanation could be given. There is little doubt, however, that she would have been alive to-day, if I had simply removed the appendages, when the tumor would probably have given no further trouble. But I thought at that time that it was dishonorable to back down on an operation. Since then I have seen the best operators in the United States perform a safer operation than they had started to do, and even sew the patient up without doing anything, and I feel convinced that they are right.

One of the other deaths was due to sepsis, the only explanation for which was that the patient was disobedient and jumped out of bed to use the chamber when the nurse was out of the room, and that while she had a *serie noed* and pins on the stump of a large fibroid tumor.

The third death was due to the operation having to be abandoned, owing to the intimate connection of the large fibrocystic tumor with the bladder, rectum and large vessels of the pelvis, in which it was deeply imbedded.

It is interesting to note that, in one of the

cases of obstruction of the bowels, the cause of the trouble was the adhesion of a loop of small intestine to the stump of an ovarian tumor which had been removed four years before, thus causing a kinking of the bowel. This is an argument in favor of covering over the stump in all such cases with peritoneum, which since then I have generally done.

The seventh death was of interest for several reasons. She was a lady who had had four miscarriages, and, being anxious to have children, I placed her on *viburnum prunifolium*, with the happiest results, going on to full time. She then had several children at full time, never having the least trouble either with her miscarriages or labors. Then she sent for me to attend her for a miscarriage, and as I found the temperature high, I advised her to come to my private hospital for curetting. This was done, but with no improvement; the temperature continued to rise and the pulse to get faster, and a tender spot made its appearance in the *McBurney* region.

Suspecting appendicitis, the abdomen was opened that night at midnight. The uterus, ovaries and tubes and appendix were all bathed in pus. Not knowing which was the original cause of the trouble, the vermiform appendix, as well as the ovaries and tubes, was removed. There was a general suppurative lymphangitis, as pus could be squeezed out of the cut edges of the broad ligament, and also there was pus and flaky lymph all over the peritoneum, which was carefully wiped out. After this she had no more pain, but she died the next day.

We now come to the three deaths in 42 cases of pus tubes. These have generally been considered very dangerous cases, but I have not found them so bad as they have been painted. In many of the cases which recovered, the tube has burst, and the abdomen has been flooded with bad smelling pus which was carefully washed away. In one case the pus tube had burst into the broad ligament, setting up cellulitis, and then had been opened into the vagina; a fistula from the tube to the vagina ensuing, which continued to discharge foul smelling pus for six months, when the patient demanded an operation. The latter proved a formidable undertaking, necessitating the tying off of nearly the whole of the broad ligament on one side. Although great difficulty

was experienced in saving the patient's life, she ultimately made an excellent recovery, and is now in perfect health. In many others there were dense adhesions between the tubes and the intestines, causing slight tears in the latter, which were repaired, and the patients recovered.

One of the three deaths among the pus tube cases was due to drainage tube infection. For the first few years the drainage tube was used in nearly every case, but since we have the Trendelenburg posture, the drainage tube is rarely required, because we are able to see every part of the broad ligaments and tie every oozing part.

In this case the tubes and ovaries were densely adherent, and when they had been removed there was still a good deal of oozing, the source of which could not be found, so that a drainage tube had to be employed. But it led to fatal peritonitis. In the second case of death after pus-tube operation, the patient had had many attacks of pelvic peritonitis, so that the tube, which was a large one, was firmly imbedded in exudation. In digging it out it was torn in many places, so that it was almost impossible to avoid leaving some small portions of it. But the abdomen was carefully flushed out several times, and a drainage tube inserted. She had a fast pulse from the first day, and died of acute sepsis on the third day.

The third death occurred in a stout woman who had had many attacks of pelvic peritonitis, until she had become a chronic invalid. Her invalidism preventing her from taking exercise, she had grown very stout, and this rendered the operation more difficult. Layer after layer of dense adhesions were broken through, and the ovary and tubes were torn to shreds in the process of removal. Gauze packing was used to arrest the oozing, but this was removed in two days. The patient developed sepsis, and died on the sixth day. At the *post mortem* the peritoneum was found clean and free from fluid. This was the only death that has occurred at the Samaritan. All three of these deaths could have been prevented by a much earlier operation. There is still one other death to be accounted for, and that occurred in a case of simple cystic ovary, the cyst being about the size of an orange. The operation was quite easy, and there was every promise of a good recovery. On the fourth day saline mixture was ordered, and as it suddenly began to operate

while the nurse was out of the ward, the patient attempted to get up to go to the chamber, but fell back exhausted and fainted. I was immediately sent for, but found her with a rapid pulse but low temperature; she never rallied. No *post mortem* was allowed, so that I am unable to state whether she died of hæmorrhage or not. Eight of the eleven deaths may fairly be put down to the operation, which would give a mortality of five and three-quarters per cent. in a hundred and forty-three cases.

Now as to the ultimate results of the 132 cases which recovered from the operation, the two cases of tubercular peritonitis and the case of cancer of the uterus, subsequently died from the progress of the disease, the latter case dying about four months later from cancer of the liver, while one of the tubercular cases died three months afterwards, and the other three or four weeks later from hæmorrhage of the bowels. Of the remaining 129, all gave excellent results, with the following exceptions: One of the pus tube cases who had had several severe attacks of pelvic peritonitis, in the midst of one of which the operation was performed, has never been well since, having a constant discharge of acrid pus from the uterus as well as suffering much pain in that organ, notwithstanding that she had been curetted and the lacerated cervix repaired previous to the removal of the two ovarian abscesses. In her case the uterus must be curetted again and drained, or else it will have to be extirpated. Her husband contracted gonorrhœa quite often, and may have reinfected her on her return home.

In three of the cases of retroversion and fixation, the ovaries and tubes being torn out of Douglas cul de sac, where they were adherent, were not removed, at the patients' urgent request, although I urged them before the operation to leave the matter to my discretion. These three women tell me now that they regret that they did not leave me to do as I thought best, as they still suffer from the ovaries, although the pain in the back and other symptoms of retroversion have been cured.

In several other cases I have opened cysts of the ovaries, and removed portions of the ovaries instead of removing the whole of them; but this procedure has not always been satisfactory.

Having said so much about the failures, may I

not say a few words about the successes. The most gratifying results have been from the operation of vntrofixation, especially when it has been accompanied with dilatation, curetting, repair of lacerated cervix and perineum, and removal of the diseased appendages. I regret that the limited time at my disposal will not permit me to mention these 43 cases in detail, but I may at least take time to say that the majority of these women had been incapacitated for many years from performing domestic, social or marital duties. On making a vaginal examination, the finger came at once upon the tender and swollen ovaries imprisoned in Douglas cul de sac by dense adhesions, due to one or more attacks of pelvic peritonitis, and the slightest pressure on them caused unbearable pain. Coitus, with such a condition of things, was out of the question, while walking was almost impossible, because the heavy uterus was retroverted and lying upon the sensitive ovaries, which had to receive the whole weight of the intro-abdominal pressure at every step. The removal of the diseased ovaries and the suspension of the uterus to the abdominal wall immediately put an end to their sufferings. Certainly they have been among the most grateful of my patients. In one case only, as far as I am aware (and I have re-examined most of them), has the uterus fallen again, and that was due to my having removed, at the end of a month, the stitches which held the uterus up. I now invariably leave in two or three carefully sterilized iodoform silk ligatures which have been dipped in saturated solution of iodoform in ether, and which appear to give no trouble.

The cases of fibroid treated by Trenholme's operation have also made splendid recoveries. In some of the cases the hæmorrhages previous to operation had been terrible, but in none of them was there more than one hæmorrhage after the operation. One of the worst of them was seen a year later, when the tumor had shrunk to one-third its former size, and the patient expressed herself in perfect health. It was with great pleasure that I read in a monograph by Cushing, on the "Evolution of Abdominal Hysterectomy in America," which reached me to-day, the following words: "A more important advance was the application of Trenholme, of Montreal, in 1876, of Battley's operation of oöphorectomy to the treat-

ment of uterine fibroids. Reasoning correctly that if this operation would stop menstruation, and thus cure dysmenorrhœa, it would also cure menorrhagia, and probably bring about the atrophy of the tumor, which so often occurs after the natural menopause. Trenholme published his first case in July, 1876."

The result of the removal of the tumors of the kidney by the abdomen has also been very successful; one of them is now over seventy years old and in excellent health. The other a young woman with a cystic kidney which almost filled the abdomen, walked out of my private hospital in thirty days; and has remained in perfect health since, now nearly two years. Her kidney contained besides semi purulent urine, several calculi. The rapidity of her pulse after the operation gave me some anxiety, it remaining about 140 for nearly a week, with the temperature normal. I have read somewhere that this has been noticed in other cases of removal of the kidney. I am much in favor of the abdominal route for extirpating the kidney, for several reasons, not the least of which is that we are thus enabled to ascertain whether the patient has another kidney before we remove even a bad one. Another reason is that we have plenty of room to do good clean work, and see what we are doing. In the last mentioned case a drainage tube was used for a few hours only, but as nothing came from it, it was promptly removed.

The sections for tubal pregnancy were also very satisfactory. Two of them were diagnosed before operation, but not so the other. In all of them rupture had occurred, and free clots in various stages of organization were found in the pelvis. One of these patients insisted upon walking out of my private hospital in twelve days, owing to sickness of her children, but kept her stitches in for thirty days. She appeared none the worse for it. The other insisted upon walking out of the Western in fourteen days, and also made a good recovery. The third case presented a history of diseased appendages for many years, and when I examined her at her home, I found them very large and painful, and advised their removal. There was much free blood in the abdomen, but I did not learn that she had fainted before taking to bed, until I made rigorous inquiries about it after the operation. I was in doubt about remov-

ing both tubes and ovaries in these cases, but considering that quite a number of women have had to have subsequent removal of the other tube for the same thing, and as both tubes appeared diseased, I felt it my duty to remove both tubes in these cases.

There were several other cases which looked very like tubal pregnancy, but as no chorionic villi could be found, they have been classed with other cases of diseased ovaries and tubes.

I have already stated that two of the cases of ventral hernia were very difficult. One was a case of seventeen years' standing, and the intestine was so adherent to the abdominal wall that it was found to be impossible to dissect it off without seriously injuring the bowel. The latter was therefore freed by cutting off a thin slice of the abdominal wall, and leaving it on the intestine, and the omentum was drawn down over the bowel. In this and in five other cases the abdominal parietes was split up into its constituent layers, and opposite sides united with layers of buried sutures; in the seventh case, in which the opening was small, it was closed by a buried purse-string suture which seemed to do well. The other difficult case did not follow abdominal section, but was congenital. She had also hip joint disease, and a sinus leading from the hip joint to the navel, discharging pus. When my hand was in the abdomen, I could trace this sinus like a rubber tube half an inch thick right down to the pelvic wall, in front of the peritoneum. She will shortly be handed over to a general surgeon for excision of the hip.

Before closing this paper, I wish to pay my tribute of gratitude to Bardenheuer, of Cologne, who first employed the principle in 1881, and to Trendelenburg, who afterwards brought it into general use of performing pelvic operations with the patient inverted, so that the intestines fall

away from the pelvis, and allow us to see what we are doing. Some of my patients who died would now be living if I had known about it during my first years of operating, and without it I feel equally sure that some of those who are alive and well, would have now been dead. While we were operating in the dark amidst coils of intestine, our work was inevitably imperfect, and the drainage tube was necessary to make up for our deficiency, but with the advent of the Trendelenburg posture, we can do perfect work, covering over denuded surfaces with peritonem, and tying oozing vessels until there is nothing left to drain.

As far as the effect upon the sexual feelings of the women was concerned, these patients might be divided into three almost equal categories: first, those who after the operation gradually lost all sexual feeling which they had formerly possessed; second, those who never experienced it either before or after the operation; and third, those who had never known what sexual pleasure was before the operation, but gradually experienced it more and more after the diseased ovaries had been removed. About half of the latter have now a strong sexual appetite, several years after removal of both ovaries. I am strongly in favor of leaving in the silk worm gut sutures which close the abdomen for thirty days; since I have been doing this, now some three years, ventral hernia following operation has almost become a thing of the past. I attribute much of my increasing success and diminishing death rate first to the Trendelenburg posture as already explained; second, to the A. C. E. mixture and quick operating, requiring so much less anæsthetic; and third, to my assistants and nurses being better trained and more thorough believers, as I am myself, in *absolute asepsis* from beginning to end.

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EXPERT TESTIMONY.*

BY HENRY LEFFMAN, A.M., M.D., PHILADELPHIA.

It is expected, I presume, that this topic shall be discussed critically, and in the severer sense of that word. The history of expert testimony would no doubt be an interesting story, certainly its employment must have been coeval with the establishment of regular jurisprudence. In the Old Testament we find several allusions to expert decision on highly important cases. The diagnosis of leprosy is committed to the charge of the priests under the operation of a general sanitary law, and reference is made also to the determination of virginity.

It is the almost unanimous opinion of intelligent people that expert testimony as at present exhibited in our courts of justice offers much for unfavorable criticism. Not only do the newspapers frequently inveigh against it in general, and in given cases against the experts themselves, but judges often express severe condemnation in their rulings and opinions. Indeed in many cases professional men are seriously discredited, by the very fact that they are called to the witness stand in a professional capacity. Sometimes the court picks out of the conflict between expert opinions a judgment in favor of one side. Thus, in a suit brought in a Philadelphia court by an ignorant laborer who had been first employed about a factory as a carter, and subsequently hired to work in a room in which strong acids were used and through his ignorance was poisoned, expert testimony was produced on both sides. One set of experts testified that the gases were dangerous and that the employer—who was a trained chemist—should have known the fact; while another expert testified that the gases could not have caused the illness. The court of last resort in affirming a verdict for large damages, said that if experts differed so much as to the danger of a certain occupation, an ignorant workman

could not be expected to know and should have been carefully warned.

When this question of conflict between experts is discussed, it is usual to think only of medical experts, and in this meeting it will not be expected that any other class should be considered. There is, however, a much larger field, which, so far as I can judge from a limited experience, is more corrupt than that of medical testimony. Indeed, a noted English lawyer says in his autobiography, that he had found experts in engineering questions more difficult to deal with than any other class. "The inside of a bar of iron," he says, "is a *terra incognita* more abstruse than any organ of the human body." In the graver issues of jurisprudence in which only physicians are likely to be called, cases involving the forfeiture of life or restriction of liberty, the procedures take place in open courts, and the very publicity is a protection against extravagance in statement or misrepresentation; but in the private hearings that are given in equity, especially cases involving the nature of patents or the value of real estate, expert testimony runs riot.

To illustrate the variety of opinions expressed by lawyers concerning expert testimony, I quote the following paragraph from a recent work, *The Law and Medical Men*, by a member of the Canadian bar:

"Some judges and writers have very little respect for the evidence and opinions of experts." An Iowa judge says: "Observation and experience teach that the evidence of experts is of the very lowest order, and of the most unsatisfactory kind." One from Maine speaks of "The vain babblings and oppositions of science so-called, which swell the record of the testimony of experts when the hopes of a party depend rather upon mystification than enlightenment." An Illinois judge quotes a distinguished occupant of the bench as saying: "If there is any kind

* Read before the American Academy of Medicine at Baltimore.

of testimony not only of no value, but even worse than that, it is in his judgment that of medical experts.' Lord Campbell said: 'Hardly any weight is to be given to the evidence of what are called scientific witnesses; they come with a bias on their minds to support the cause in which they are embarked.' Taylor says: 'Perhaps the testimony which least deserves credit with a jury is that of skilled witnesses. . . . Being zealous partizans, their belief becomes synonymous with faith as defined by the apostle, and it too often is but the substance of things hoped for, the evidence of things not seen.' On the other hand, Best says: 'It would not be easy to overrate the value of the evidence given in many difficult and delicate enquiries, not only by medical men and physiologists, but by learned and experienced persons in various branches of science, art and trade.' And many judges have spoken of the essential aid to courts and juries rendered by the opinion of the experienced, skillful and scientific witness who has a competent knowledge of the facts involved."

Since we cannot deny that foundation for grave criticism exists in our present methods of expert service, it is proper to examine into the cause and possible cure.

The principal cause is, of course, money. While occasionally, professional or institutional rivalry may lead to antagonism, the temptation of high fees is a sure influence to secure a prostitution of talent and abilities. We cannot expect such temptation to be avoided until human nature undergoes much change and the consciences of men are more generally developed. We must, therefore, look to methods of reform in manner of securing and employing experts to ensure that the influence of the fee may be less potent.

The literature of this subject, as it appears in American journals and text books, inclines very strongly to a system of State experts analogous to that in vogue in some of the nations of continental Europe. Many of those who advocate such a system have but little knowledge and less experience of the details of this method, and a careful study of it in operation, might show serious defects, but it will be sufficient to consider the questions of the applicability of these methods to American practice.

In the first place it must be noted that the system of jurisprudence in vogue on the continent of Europe is materially different from that of England and the United States. The continental procedure is essentially that of the Romans, and has far less of that consideration for the right of the accused, which is so humane a feature of English law.

Indeed, it has been tersely said that under the continental system a man is presumed to be guilty until he demonstrates his innocence. In actual criminal practice the defence depends largely upon the will of the court for its privileges of cross-examination, and the judge often questions the accused at great length. Apart, however, from the great difference of judicial procedure, we must bear in mind the difference in systems of government. That political corruption, both as to dishonesty and favoritism, exists in the best governments of Europe cannot be doubted, but it is certain that they are free from the extraordinary development of party politics as seen in the country. The civil service of England, France, and Germany is by no means perfect; it is not by long odds made up wholly of honest or able men, but there is at least not this continual feverish contest for spoils, and the selection of experts under government auspices can be kept in part out of the vortex of political life. In the United States, however, nothing that concerns public office can yet be kept wholly from politics. The high fees and professional distinction to be attained by service as State expert in criminal cases will be likely to develop the evil influences to a high degree. There are, moreover, difficult questions of detail to be considered by those who favor this system. All sciences are now divided into many specialties. While our specializing tendencies have not gone so far as to suggest the case of the man who had devoted his life to the study of the Greek definite article, and died lamenting that he had not confined himself to the dative case of it, yet proficiency in one department may co-exist with superficial knowledge in closely related fields. Good all-round men, to use a colloquial expression, are becoming scarcer every day. It will, therefore, be no easy task for the appointing powers to select experts qualified to give evidence in the various cases that come before the courts; indeed, it is probable, that if the system should

come into vogue a board of experts would be required for each district. I doubt very much if the medical profession in its present condition could furnish a sufficient number of competent persons to meet the requirements of all the courts of the country.

I leave out of consideration many details which concern the mere machinery of system, such as tenure of office, compensation, method of appointment, extent of authority, though these involve great difficulties in settlement.

Let us assume that some State has inaugurated a system of official experts, and by some happy chance has secured a board including several men of established honor and ability to whom all questions involving expert testimony are to be submitted. Let us further suppose that one of these experts has been duly consulted in the case of a prisoner on trial for murder, for whom a defence of insanity is set up, and whose lawyers have considerable money for defence. If the official report favors the theory of the defence, all may be well; but if the decision is against that theory, the contests between experts will not be set aside, for the Constitution of the United States, and of many States, guarantees the accused the right to be confronted by the witnesses against him, and compulsory process for obtaining witnesses in his favor. Advantage will certainly be taken of this constitutional privilege, and an array of experts produced to contradict the official report. The unseemly contests will not be avoided. To take away this right of contradiction by the defence would be to inaugurate a system of most vicious character. A correct system of jurisprudence lies at the very foundation of happiness. The evils of the social life of the middle ages are often ascribed to bigotry and superstition, but, in reality, a large part of the wrong was wrought by an erroneous system of jurisprudence. Defects undoubtedly exist in the English and American methods, but they depend upon the nature of Anglo-Saxon liberty, and they exemplify the humane principle of our laws, that a prisoner is considered innocent until he is shown to be guilty, and that all doubt or error must be resolved in his favor.

Finding then, that apart from the crude manner in which the system of State experts is conceived, it will hardly accord with our methods of trial, we may consider whether there is any other way

of increasing the efficiency and securing the ability and impartiality of experts.

Now a large part of such reform undoubtedly depends on advancing the force of honor and conscience in the individual, and is scarcely to be considered here. The influence of example will be powerful for good, and it is to be hoped that a sentiment may be cultivated in the profession which will render it impossible for a man or woman to retain prominence in medical circles while basely selling talent in defence of wrong. It would be, however, a great injustice if lines should be so tightly drawn as to prohibit the utterance of facts, or of opinions based on facts. "Error of opinion may be tolerated when reason is left free to combat it." The vilest criminal, the basest swindler, the most corrupt merchant is entitled to have the facts set clearly forth on the same principle that a physician treats a disease that is the result of vice as readily and as carefully as that which is due to the noblest self-sacrifice.

While systems of education cannot give honor or conscience where these do not exist, or strengthen them where feeble, it is not impossible for selective action to be exerted which will exclude some of the flagrantly unworthy. I look with some hope to the development of an elaborate system of instruction in medical expert work. At the present time medical colleges in the country are dabbling more or less in this line. All of them have courses on medical jurisprudence, but in many cases these courses are like the lithia in mineral waters, principally on the label; that is in the announcement or schedule. If we inquire as to the instruction, we will find it either a brief lecture course, by auxiliary teachers at a nominal salary, or that it is attached to the department of some member of the faculty, who "runs in" a few lectures in the course of the winter. A professor of medical jurisprudence is an impossibility at the present day. The time was, no doubt, when one man could qualify himself to give opinions upon poisoning, infanticide, abortion, rape and wounds, but one small head cannot now carry all that is to be considered upon these topics, and if a single expert is called on to serve in all fields, he will, if not protected by arbitrary exclusions of criticism, be discredited by counter-testimony. Some years ago I succeeded in introducing into

the curriculum of a medical school a course in medical jurisprudence, based upon the principle that each department must be headed by experts. The time assigned by the course was short, but it was divided among the members of the teaching body "according to the gifts which bounteous nature (and experience) did in them serve." The professor of obstetrics lectured on abortion and infanticide; the professor of surgery on wounds, and so on. The result was certainly satisfactory to the class, but unpopular with the faculty, and was abandoned. It is so much easier to elect some lecturer on medical jurisprudence, relinquish the small fee which each professor had received, and worry no longer as to the instruction, especially since the original reason for introducing the course into the curriculum was to comply with the requirements of certain State boards. Such perfunctory work will not give the profession a body of experts qualified to do justice to the grave issues of medical jurisprudence. A year's course of lectures following upon a good medical training, and embodying some elective branches, will go far towards accomplishing reform. I have for years contended that the tendency to specialism should be recognized in our college work, and I think that the fourth year of our present system offers an admirable opportunity to put this plan into operation. I suggest that the course of the medical school be so arranged that the education in general medicine and surgery be finished in three years, which can certainly be done if a good standard of admission is established, and that the work of the fourth year be optional as to various specialties. Among these could be included a course in medical jurisprudence and State medicine, leading to a special degree or at least a special certificate, and in time there will not only be at the command of the community experts in all the various fields of judicial injury, but in the cities, where the necessity is, of course, greater, there will be the facilities for elaborate and impartial inquiry which a collegiate organization affords. Time will not permit me to treat this matter in more detail. I have simply recorded it

as my view that medical experts should be systematically trained for their work.

I do not anticipate, however, that the highest possible development of college methods will remedy fully the evils which are associated with expert testimony. No college has ever shown a capacity to create conscience or morals. These are matters of individual organization. The temptation of professional distinction, public success, and high fees will always be capable of diverting men and women from the paths of truths and justice, and we may expect under any system a continuance of those disgraceful exhibitions which have made medical experts a theme for the sarcastic wit of lawyers and newspapers and the more solemn denunciation of judges.*

*From the current (April) number of the *American Law Register and Review*, I quote the following notes which bear upon two important points in the topic under consideration.

"The Court of Appeals of New York has administered a deserved rebuke to the absurd lengths to which expert evidence is now carried, though in terms much milder than the case warranted. On the trial of the notorious Dr. Buchanan, for the murder of his wife, one of the jurors, while at dinner at a hotel, after the case had been submitted to the jury, was suddenly taken ill, and fainted. Physicians, expert in mental diseases, examined the juror, and gave it as their opinion that he was not affected with epilepsy or paresis; and that his symptoms resembled those of nervous exhaustion due to close confinement as a juror. The juror denied ever having suffered from epileptic attacks, and physicians who had known and attended him, testified that he had never manifested any symptoms of nervous disease. Yet other physicians were found, total strangers, who had no knowledge of the facts other than that gained from the statements of others, who dared testify that, in their opinion, the attack was of an epileptic character, and indicated a mental disturbance that must have existed for several hours, and have rendered his opinion unreliable and useless. This testimony was very properly held not to show that the juror was mentally incapable of concurring in the verdict and, therefore, not good ground for setting it aside. This case, in common with many other recent ones, goes to show how utterly unreliable the testimony of the average expert is, especially when he has a pecuniary stake in the question at issue."

"The Supreme Court of Arkansas, following the weight of authority, has recently held that, in the absence of express statutory authority, an expert who testifies for the State in a criminal case cannot demand extra compensation as an expert in addition to the usual witness fees, at least when he is not compelled to make any preliminary examination or preparation, and is not compelled to attend and listen to the testimony.

"When no demand is made in advance for special compensation, an expert witness can recover only the statutory witness fees."

SURGERY

IN CHARGE OF

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TECHNICS OF MAUNSELL'S METHOD OF INTESTINAL ANASTOMOSIS.

BY FREDERICK HOLME WIGGIN, M.D.

Soon after the publication by the writer, in the *New York Medical Journal* of January 20, 1894, of the report of a successful case of intestinal anastomosis effected by Maunsell's method, a letter of congratulation was received from the late Professor H. Widenham Maunsell, who had recently removed from New Zealand to London. He stated that he was dissatisfied with the published description (*American Journal of Medical Sciences* for March, 1892) of his method of intestinal suture. Last winter, after the publication by the writer, in the *New York Medical Journal* of December 1, 1894, of an article entitled *Intestinal Anastomosis*, read before this association on October 11, 1894, in the course of which a comparison was made between Maunsell's method and that of Murphy, of Chicago, so much interest was shown in regard to the former method, and so many inquiries were made for information as to various details of the technics, and as to where a description of the method could be found, that a letter was addressed to Dr. Maunsell, requesting him to revise and republish his article. Unfortunately, before this letter reached its destination, Professor Maunsell had died from an attack of the *grippe*. A friend, in announcing the unhappy event, said: "Science has lost a devoted and enthusiastic student." The same letter conveyed a request from Mrs. Maunsell that the writer should undertake the revision and publication of the article which he had requested Dr. Maunsell to rewrite. The task the writer now undertakes as a tribute to the genius which conceived and the courage which first executed this admiral surgical procedure, and as an acknowledgement of the debt which he is confident time will prove intestinal surgery owes to this distinguished surgeon.

Technics of Maunsell's Method of Intestinal Anastomosis.—The patient having been prepared in the usual manner for the performance of a laparotomy, and having been anæsthetized, the operation is begun by making a median incision in the abdominal wall below the navel, extending it upward if it prove to be necessary. This open-



FIG. 1.—A, cancerous, gangrenous, or injured portion of intestine; B. B. sponges with safety pins clamping the empty bowel on either side of the diseased or injured structure.

ing permits a quick and thorough search to be made for the diseased or injured portion of the bowel. For operations on the appendix vermiformis, the cæcum, or any part of the ascending or descending colon, the rule is to make an incision over the site of disease or injury, if it can be localized. In all doubtful cases the median incision is to be preferred. The abdomen having been opened, and the portion of the intestine to be excised located, it is brought outside of the cavity, accompanied by about six inches of healthy intestine on either side. It is next emptied of its contents above and below the diseased part by passing it between the finger and thumb and gently compressed. The empty gut should be clamped on either side of the disease portion of the bowel at point six inches distant, to prevent the escape of fæcal matter at the time of excision, or during the subsequent manipulations, either by the clamps devised by Dr. W. S. McLaren, of Litchfield, Conn., or by

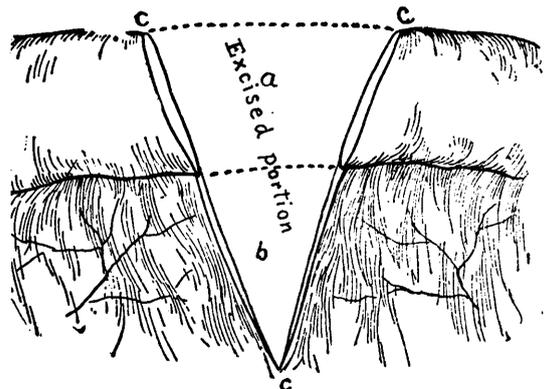


FIG. 2.—a b, portion of intestine and mesentery to be removed; b b, mesentery; c c c, lines of the incision.

those improvised as suggested by Maunsell from a safety pin and a sponge, as shown in Fig 1.

The general peritoneal cavity is shut off by flat sponges which have been rendered sterile and wrung out in hot saline solution, and the exposed portion of the bowel should be protected by the same means. The portion of the intestine to be removed is excised by means of a V-shaped incision having its apex in the mesentery and its lateral borders on either side of the diseased point.

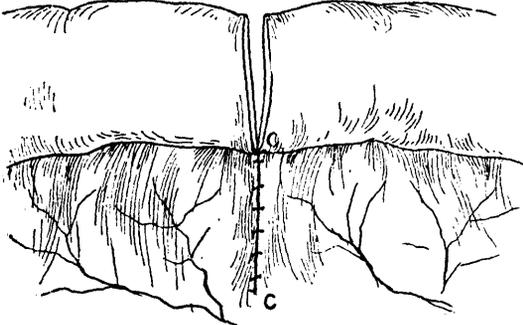


FIG. 3—c c incision in mesentery united by continuous suture.

The mesenteric vessels are ligated before being cut by passing a needle armed with catgut around them, and tying it as suggested by Halsted; or they can be picked up and ligated as they are divided. The wound in the mesentery is closed by means of a continuous or interrupted suture, as seen in Fig 3.

After the divided ends of the intestine have been carefully washed with a hot saline solution, followed by a small quantity of a fifteen-volume solution of hydrogen dioxide, the proximal and distal ends are united primarily by means of two temporary sutures which are passed through all the intestinal coats, are tied, and the ends left long. The first suture is placed at the inferior or mesenteric border, and is passed in such a manner as to

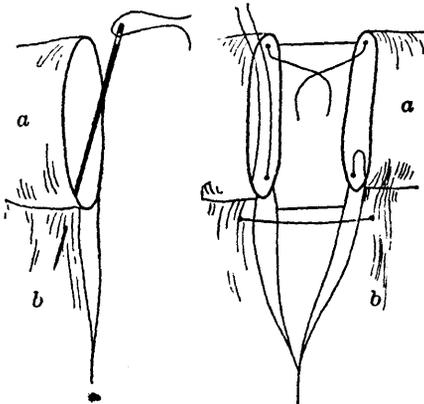


FIG. 4—a a, segments of bowel; b b, segments of mesentery.

include a portion of mesentery on both sides, as is shown in Fig. 4, and the second is placed directly opposite at the highest point at the superior border.

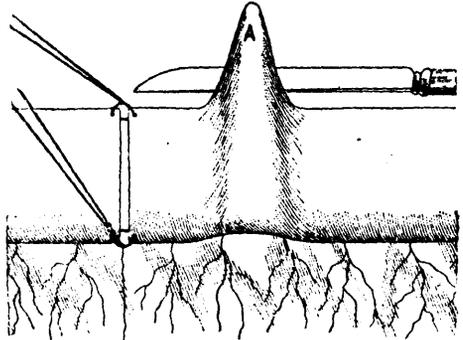


FIG. 5—A shows the point of longitudinal incision made in the superior border of the larger intestinal segments.

A longitudinal incision, an inch and a half long, is next made in the superior border of the larger intestinal segment, two inches from its severed end, by pinching up the intestinal coats between the finger and thumb, and dividing them with a narrow-bladed knife (shown in Fig. 5).

Through this opening a forceps is passed, and the long ends of the temporary sutures are caught up and drawn back through the opening.

By now drawing on these sutures, the ends of both segments of the bowel are invaginated and

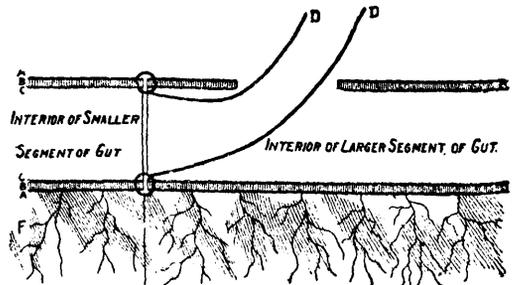


FIG. 6—Longitudinal section of gut, showing A A, peritoneal coat; B B, muscular coat; c c mucous coat; D D, temporary sutures passed into the bowel and out through the longitudinal made in the larger intestinal segment; F, mesentery.

made to appear through the longitudinal incision as concentric rings. Figs. 7 and 8 show this to have been accomplished, and the peritoneal surfaces are seen to be in contract on all sides.

The ends of the long temporary sutures previously alluded to are held by an assistant while a fine, straight needle (milliner's No 6.), armed with a strand of horsehair, is passed through all the coats of the bowel and through both sides about a

quarter of an inch from the divided ends. The suture is caught up by forceps, divided in the middle, and tied at once on either side, thus avoiding the confusion that would result if all the sutures were passed before any of them were tied. This process is repeated nine times more, or until

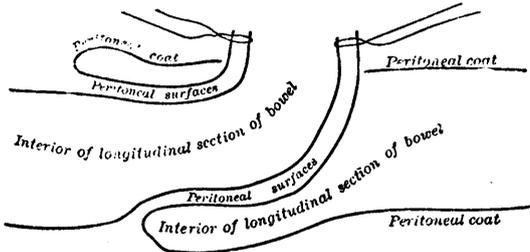


FIG. 7.—Longitudinal section of intestine, showing the relative position of the peritoneal coats of bowel invaginated at the longitudinal opening.

twenty sutures are placed and tied. The temporary sutures, having served their purpose, are cut off short. The cut ends of the bowel are dusted over with either iodoform or acetanilide, and the invagination is reduced by means of gentle manipulation accompanied by slight traction. The edges of the longitudinal opening are turned in, and it is closed by Lembert sutures passed through the peritoneal, muscular, and submucous coats.

Anastomosis of segments of ileum and colon may be effected by this method in the following manner :

A temporary suture is passed through all the coats of the greater and lesser intestinal segments at their mesenteric border, care being taken to adapt this border of either segment to the corresponding border of the other. This suture is tied and the ends left long. A second temporary suture is passed through the side of the larger segment at the point where the superior border

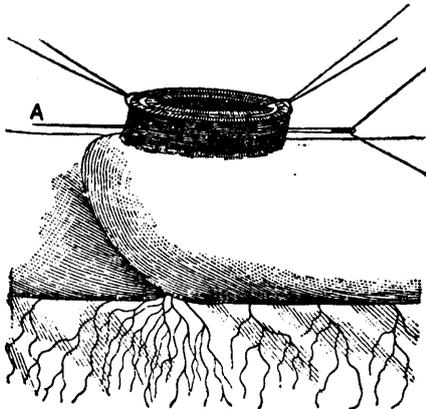


FIG. 8.—A shows the needle passed through both sides of the bowel and through all the intestinal coats, and shows that one passage of the needle places two sutures.

of the smaller segment touches it, and through which the suture is also passed through all the coats of the highest free end of the larger segment. The location of these sutures and the accurate adaption of the mesenteric borders of the segments is shown in Fig. 5.

A longitudinal incision is made in the superior borders of the larger segment two inches from the divided gut. The ends of the temporary suture are now drawn through this opening, traction is made, and the free edges of the large segment is inverted and invaginated, and the free edges of the intestine now appear in the longitudinal opening as concentric rings. If the difference of calibre between the two segments is great, a V-shaped portion of the convexity of the larger segment may be removed. This and the method of suturing are shown in Fig. 8.

The intussusception is reduced and the longitudinal slit is closed, as previously described.

Gastro duodenostomy or Gastro-enterostomy.—Prior to the performance of operations on the stomach, the patient is deprived of food for two days and the stomach is cleansed by several

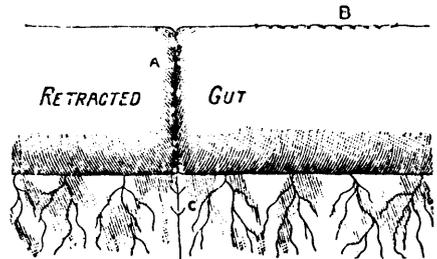


FIG. 9.—This figure shows the intestine after the completion of the anastomosis and the reduction of the invagination. A, line marking the point of union between the ends of the bowel, showing that the peritoneal coat is well turned in, and that the sutures and knots are all inside the gut ; B, longitudinal slit in the bowel closed by Lembert sutures.

irrigations with an antiseptic solution during this interval. The patient having been anaesthetized and the abdomen opened by means of either a transverse or a longitudinal incision, after phylorctomy, the duodenum, may be united to the stomach by means of this method.

Owing, however, to the partial fixation of the duodenum, this method is only applicable to cases in which the growth is confined to the pylorus. When the disease is extensive, it is better to anastomose the jejunum to the stomach at a point on its greater curvature. Gastro-enterostomy is performed as follows :

A portion of the jejunum, as close to the duodenum as possible, is drawn out of the abdominal cavity, emptied of its contents, and clamped. A portion of the greater curvature of the stomach is also drawn into the wound, and the jejunum is

brought into contact with and united to it by several Lembert sutures in such a way that there will be as little strain as possible on the usual permanent sutures after they are placed and tied. A longitudinal opening, an inch and a half long, is then made in the superior border of the gut. The corresponding opening in the stomach should be an inch above the greater curvature and parallel to it. The extreme ends of these wounds are now united by temporary sutures passed through all the coats of the stomach and intestine, and the sutures are tied, the ends being left long. An opening is now made near the centre of the stomach sufficiently long to allow of the invagination of the openings already made in both bowel and stomach. This having been accomplished, the openings are sutured in the manner already described, the needle passing through all the coats of the intestine and stomach. The invagination is reduced, and the slit in the centre of the stomach is closed by means of Lembert sutures.

When the disease is located in the cæcum or in the ileo-cæcal valve, ileo-colotomy may be performed as follows, instead of in the manner previously described :

The diseased cæcum having been completely excised, an opening is made in the side of the healthy colon two inches from its cut end ; into this opening the free end of the ileum is inserted. The temporary sutures are applied, tied, and brought out through the cut end of the colon, and, traction being made on them, the cut edge of colon and free end of the ileum are invaginated and drawn through the free end of the colon. The sutures being applied in the manner previously described, the invagination is reduced. The free end of the colon is turned in to the extent of an inch, and the opening is closed by a row of Lembert sutures, care being taken to pass the needle through a few shreds of the submucous, as well as the peritoneal and muscular coats, as advised by Halsted.

When the diseased cæcum can not be excised, owing to the existence of firm and long-standing adhesions formed between this portion of the bowel, the ureter, and the iliac vessels, ileo-colotomy should be substituted for ileo-cæcotomy. The diseased cæcum and the ileo-cæcal end of the ileum having been emptied of their contents, clamps are applied four inches on either side of the diseased structure. The ileum is divided. The end of the ileum which is attached to the cæcum is invaginated, and the opening closed by means of Lembert sutures. An incision is made in the convex surface of the colon large enough to receive the free end of the ileum, which is attached to the edges of the cut in the colon by the usual temporary sutures. An opening is now made in the colon two inches higher up, through which opening a forceps is passed and the ends of the temporary sutures are seized, and by their aid the

free end of the ileum and the edges of the opening in the colon to which it has been attached are invaginated and drawnout through the upper slit in the colon. The permanent sutures are passed as usual, tied, and cut off short. The invagination is reduced, and the longitudinal opening in the colon closed.

An irreducible intussusception is treated in this manner: A slit is made in the intussusciens and gentle traction made on the intussusceptum until its neck appears outside the opening in the intussusciens. The base is then transfixed with two fine straight needles armed with horsehair, and the intussusceptum is amputated a quarter of an inch above the needles, leaving a fair stump beyond them. The sutures are now passed through the invaginated bowel, caught up in the interior of the bowel, divided, and tied. The ends of these sutures are left long and used as retractors in place of the regular temporary sutures while the other sutures are being placed and tied. This having been done, they are cut off short, the invagination is reduced, and the longitudinal slit is closed. The object of transfixing the neck of the intussusceptum previous to its amputation is to prevent it from retracting, and it also insures the maintenance of the proper relative positions of the different layers.

The various experimental intestinal anastomoses, which in the past few years the writer has performed in accordance with this method on dogs, have proved the following points in the technics to be of consequence :

1. The longitudinal slit which is made in the segment of bowel having the greatest calibre (proximal or distal), and through which the invagination occurs, should be located at least two inches from the cut end of the bowel.
 2. The mesentery of both segments must be included in the first temporary suture which is passed at this intestinal border ; this prevents sloughing of the bowel at this point.
 3. The sutures should be placed at least a quarter of an inch from the cut intestinal edge ; they should be interrupted, about twenty in number, and should not be drawn too tightly when they are tied.
 4. The best suture material for this work is carefully tested and prepared horsehair.
 5. The needle best adapted to this work is a round, straight one (milliner's, Nos. 6 to 9).
 6. The invagination after the sutures have been placed must be carefully reduced, rather by manipulation than by traction, otherwise the sutures may cut out.
 7. In closing the longitudinal slit too much of the intestinal edges should not be turned in or a contraction may result at this point.
- The special claim of this method of intestinal suture to recognition and further practical trial

rests upon the lack of special appliances needed for its performance; its adaptability to every portion of the intestinal tract; the ease, rapidity and safety with which an intestinal anastomosis can be effected by its aid; and thus be lost in determining the direction in which the invagination should be made.

The objections made to this operation, which experience has proved groundless, are: First, that the sutures pierce the mucous as well the other intestinal coats. This point Professor Maunsell considered an advantage, for the said "firmly suturing all the coats gives great healing capacity to the ends of the bowels, and the stitches are not likely to tear out." That this objection is not a valid one is proved by the fact that no failure to secure a good result has occurred from this cause in any one of the cases of which we have record where an intestinal anastomosis has been performed in accordance with this method, nor has there been the slightest evidence of leakage having taken place. The second and last objection that has been urged has been the possible danger of cicatricial contraction causing stenosis at the point of union. This fear has proved, in the writer's experience, to be without foundation, the patient upon whom the writer operated (performing enterectomy with removal of six inches of the ileum for a perforation following an abdominal contusion) on September 12, 1893, having remained in perfect health and free from bowel symptoms for more than two years. I now have the pleasure of presenting this patient to you. Again, on October 9, 1894, an intestinal anastomosis according to this method was performed by the writer on a dog before the Litchfield County (Conn.) Medical Association. The dog made a good recovery and remained in good health till April 23, 1895, when he was killed and a necropsy performed before the same association. The intestinal scar at the point of union was barely visible, there was no ocular evidence of contraction, and there was no intestinal adhesions.

It has from time to time been suggested that the sutures have been placed according to this method and the invagination has been reduced, it would be wise to place as an additional safeguard a row of Lembert sutures around the outer side of the bowel, uniting again the peritoneal coats of the segments. To this suggestion Professor Maunsell replied in a letter to the writer, dated London, February 25, 1894, as follows: "A double line of sutures should never be applied in intestinal surgery. It obstructs the circulation too much, interfering with firm plastic peritonitis, and in some cases causing gangrene of the inverted portion of the gut."

The writer has been able to collect the reports of eleven cases of intestinal anastomosis effected by this method of suture. Of these operations

nine resulted in the recovery of the patient and two were followed by death, which could not in either instance be fairly attributed to the failure of the suture or the method of applying it.

The successful operations were performed by the following surgeons:

1. Frank Hartley, M.D., surgeon to the New York Hospital. Operation performed during March, 1892, and recorded in the *New York Medical Journal*, vol. lvi, pp. 302 and 464.
2. Mr. Stanley Boyd, F.R.C.S., surgeon to the Charing Cross Hospital, London. Operation performed November 26, 1892. Case recorded in the *Transactions of the Medico-Chirurgical Society*, London, vol. lxxvi, p. 345.
3. Frederick Holme Wiggin, M.D., surgeon to the New York City Hospital (Blackwell's Island). Operation performed September 12, 1893. Case recorded in the *New York Medical Journal*, January 20, 1894.
4. Mr. W. Harrison Cripps, F.R.C.S., surgeon to St. Bartholomew's Hospital, London. The case was reported and the patient shown to the London Medical Society at its meeting, November 12, 1894.
5. Mr. Keetley, F.R.S.C., surgeon to the West London Hospital. Case recorded in the *Lancet* for November 17, 1894, p. 1156.
6. Mr. L. A. Bidwell, F.R.C.S., surgeon to the West London Hospital. Case reported to the writer by Professor Maunsell in February, 1895, and to the London Medical Society by Mr. Bidwell, March 25, 1895.

This gentleman has recently informed the writer that the operation was performed upon a woman, twenty-seven years of age, for a rupture of the ileum which occurred in the course of an operation for the removal of an extra-uterine gestation sac of ten months' standing. In reply to the writer's question as to whether or not extra sutures had been employed to approximate the peritoneal coats after the reduction of the invagination, Mr. Bidwell writes: "The only modification which I employed was closing the longitudinal opening in the gut with Halstead's suture instead of Lembert's."

7. Dr. Emmerich Ullman, of Vienna. The operation was performed in December, 1894, only one row of silk sutures being employed. The patient made a good recovery. The case was recorded in the *Centralblatt für Chirurgie*, No. 2, 1895; also in the *Annals of Surgery* for August, 1895.

8. Mr. W. Watson Cheyne, F.R.C.S., surgeon to the King's College Hospital London. Case unrecorded. The operation was performed on April 9, 1895. The following history of the case has been kindly furnished to the writer by Mr. Cheyne: "Cancer of transverse colon; excision, Maunsell's method, and recovery. Female, mar-

ried, aged seventy-two, admitted to King's College Hospital, March 27, 1895. Previous history unimportant. In July, 1893, had an operation performed for pain in the abdomen; nature of the operation not known; she says it was about the vagina. Previous to that she had suffered much pain in the right iliac fossa for about eighteen months. She says she was cured as the result of this operation but of late pain has come back in the right iliac region and symptoms of partial obstruction have set in more than once. When she was admitted there was a condition of partial obstruction, but this improved somewhat before she was operated on. On her admission her abdomen was a good deal distended; nothing was felt *per rectum*; *per vaginam* the interior wall of the vagina seemed scarred. On placing the hand on the right side of the abdomen the coils of the intestine are readily felt and great pain is at once felt as the result of the peristalsis set up under chloroform. A hard oval tumor is felt about the umbilicus, which moves freely in the interior of the abdomen. On April 9th the abdomen was opened and a cancerous tumor of the transverse colon was found, together with enlarged glands in the mesocolon and in the neighboring omentum. The bowels were clamped by Maunsell's safety-pin method and the disease was removed. Repair by Maunsell's method. Uninterrupted recovery. Patient well when I last heard." To this Mr. Cheyne adds: "I found Maunsell's method very difficult in this case. The obstruction had evidently lasted a long time, and the longitudinal muscular bands of the intestine above were enormously hypertrophied and formed rigid bands, and the difficulty of invaginating that end of the gut was extremely great. In a case of old-standing obstruction I would not again use Maunsell's method."

9. Dr. Robert T. Morris, professor of clinical surgery in the New York Post-graduate Medical School and Hospital. The operation was performed in the writer's presence on September 19, 1895. On October 11, 1895, Dr. Morris reported the patient's convalescence to have been uneventful. — *N. Y. Med. Jour.*

A SAFE AND SURE METHOD OF REDUCING ENLARGED TONSILS.

BY H. W. KENDALL, M.D.

The etiology of acute and chronic tonsilitis seems settled in the minds of all pathologists, but my experience points to a cause entirely overlooked by all the authors that I have consulted. Superacidity of the *prima viæ* is in my opinion the essential cause of both the acute and the chronic disease, the catarrhal accidents being merely exciters.

I think that in every case of acute or chronic inflammation of these glands the salivary secretions will be found acid instead of alkaline, and that free doses of potassium or soda locally applied and ingested will give most rapid relief. The anatomy of the tonsil is well understood, but the great variation in the size and number of excretory ducts has not been particularly pointed out. These ducts are greatly enlarged in either acute or chronic hypertrophy of the glandular structure unless contracted by astringent or caustic applications. Since the general disuse of astringent gargles, suppurative cases are rarely seen. Cauterization, once the general practice, is now almost abandoned for the reason that it is obstructive and converts the acute into the chronic condition.

We have an efficient cauterant and at the same time an antiseptic and alterant in pure hydrochloric acid, which is always friendly to human flesh. This is the agent that I have found so efficient in reducing enlarged glands in all parts of the body, but the method of using it is the particular point that I wish to present in this short paper. My method is the use of capillary glass tubes (Bohemian or Whital and Tatum's glass), one-eighth of an inch caliber, heated in a Bunsen flame and drawn to a point, the shaft of the drawn part two inches long with caliber one sixty-fourth of an inch, broken off and fire polished. Now if the shaft of the tube is five inches long the drawn part will hold, after dipping in a fluid, one minim; if the larger shaft is increased in length it will hold more. When the point of this tube touches any substance it will deposit a fraction of the drop; by long contact it will deposit all that it contained.

I dip these tubes into pure fuming hydrochloric acid and push them into the excretory ducts of the tonsils, three in each gland at each sitting, twice a week. This operation is painless and produces no inflammation or swelling. Five or six applications are sufficient for moderately enlarged glands. Nitric acid used in the same way will produce swelling and sloughing. Chromic acid so used is rapidly effective, but I abandoned it for ever after producing tetanus in a malignant case.

The advantages of this mode of application are the ability to deposit a definite and minute amount of acid and avoidance of strangulation and choking effects of the fumes. After ten years' experience with this treatment I can quite positively say that in my opinion tonsils ought never to be removed with knife or scissors.

If a local anæsthetic is desired a saturated solution of bromide of potassium and bicarbonate of soda is better than cocaine because the latter produces subsequent delirium or dizziness with asthmatic breathing in many cases.—*Jour. Am. Med. Assoc.*

MEDICINE

IN CHARGE OF

N. A. POWELL, M. D.,

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A CASE OF PHTHISIS APPARENTLY CURED.

The following noteworthy case was seen in consultation with Dr. W. Duffield Robinson. The patient was a woman of 21 years. The family history revealed a decided taint of tuberculosis, her mother and several other members of both sides of the family having died of phthisis. Her mother died in the spring of 1892.

In March, 1891, the patient suddenly began to lose flesh, her appetite became poor, her digestion much deranged, cough and expectoration appeared, and general debility followed so rapidly and overwhelmingly that when first seen during the latter half of the month, she was already bedridden. At that time her condition and physical signs were as follows : She was extremely emaciated, weighing but 100 pounds. Fever was constant, very irregular, and with a high evening rise. She suffered nightly from the most profuse and exhausting sweats. Her appetite was entirely abolished, the stomach was so irritable that the slightest cause would provoke the most violent attacks of vomiting. Cough was persistent and expectoration very free, the daily average was eight fluid ounces of thick, tenacious, heavy sputum. In the right apex and over the base of the left lung were signs of consolidation,—increased fremitus, dullness on percussion, bronchial breathing with fine crackling râles and a few bubbling râles. The sputum contained myriads of tubercle bacilli ; the bacteriologist regarded the abundance of bacilli as the most extreme in his experience, hundreds could be counted in one field. An unfavorable prognosis was, of course, the only one that seemed justifiable.

The patient was placed upon a diet of egg-albumen, which seemed to agree with her stomach better than any other food, and this diet was forced so that she consumed daily the albumen of two dozen eggs. The medicinal treatment consisted of 1-100 of a grain of strychnine nitrate with 1-1000 of a grain of atropine sulphate, every two hours hypodermatically ; and 1-50 of a grain of strychnine nitrate with 1-12 of a grain of the double chloride of gold and sodium, and $\frac{1}{2}$ of a grain of a vegetable digestive every two hours by mouth. After a few days the amount of gold and

sodium was increased to $\frac{1}{3}$ of a grain every two hours. She was given cod-liver oil inunctions, and general massage with passive movements once daily. At first she showed signs of strychnine intoxication, and the dose was reduced, but she soon resumed the original dose, and after the first two weeks she bore the drug well, although always just behind the border-line of its toxic action. During April she improved decidedly ; she regained flesh, the fever became less marked, the night sweats less profuse, the cough was allayed, and the expectoration much reduced, though rich in bacilli. During May the improvement was very rapid. By the latter part of the month she had recovered her normal weight, 125 pounds. The fever and night sweats had disappeared, the appetite was good and the digestion normal, the cough was almost gone, and tubercle bacilli had disappeared from the sputum, which was still expectorated in very slight amount. All signs of consolidation in the right apex and base of the left lung had disappeared, the only remaining sign was slightly harsh breathing at those sites. She was instructed to continue her general treatment, to return to a normal diet, to practice forced, deep breathing and graduated exercises, and was sent to the mountains. In September she returned to the city in perfect health. Her weight was 132 pounds ; she was robust and muscular, with better chest expansion than she ever possessed before in her life. There was no cough or expectoration, the lungs were in all respects entirely normal, except for a patch of emphysematous breathing in the base of the left lung. She re-entered upon her social duties and has since led a busy life. Her health continued perfect until early in August, 1895, when she had a slight attack of pneumonia involving the base of the left lung. The sputum was sparse, resembled prune-juice, and was crowded with pneumococci and tubercle bacilli. The attack ended by crisis on the eighth day, and a few days later she was again sent to the mountains. She returned in ten days with a recurrence of all the symptoms of the attack of two years previous. Her weight had fallen to 114 pounds, there were anorexia, fever, cough, and free expectoration, which was full of tubercle bacilli. In the base of the left lung was consolidation with moist râles. She was placed on the

same treatment given her during the first attack, and she rapidly regained flesh and strength. On November 1 her weight was again up to 124 pounds, all fever was gone, the cough and expectoration had almost disappeared. Tubercle bacilli were not to be found since the last week in October. The consolidation had become greatly reduced, but was still present, when a few days later she was again sent to the mountains.

Noteworthy points in this case are: the sudden onset, something like general military tuberculosis; the large number of bacilli; the rapid recovery, all the more remarkable with a pronounced tubercular family history; the complete disappearance of consolidation and bacilli; the acute re-appearance after two years, of the whole train of symptoms, with signs in the base of the left lung directly following an attack of pneumonia located in that vulnerable part; the large number of bacilli and their early complete disappearance in the second attack; the abatement of the consolidating process, and the rapid recovery of the general health after the second attack; the absence from the treatment of all cough medication and antiseptics, and the large doses of strychnine nitrate and the double chloride of gold and sodium, with which the system was kept literally saturated.—Wm. Pepper, M.D., LL.D., in *Univ. Med. Mag.*

THE KNEE-JERK IN DIAGNOSIS.

Primarily, the knee-jerk depends on the integrity of the reflex arc, situated in the third or fourth lumbar segment. The ordinary and customary method of testing the knee-jerk, while the person's legs are crossed, may suffice when it is quite active; but the utmost care is necessary when there is any doubt as to the character of the reaction. It is never safe to say that the knee-jerk is absent, unless repeated and varied tests have been made with the clothing removed. The exaggeration or absence of the knee-jerk, *per se*, is not pathognomonic of any special type of disease; corroborative signs must be present. The absence of the knee-jerk is of more positive value than its exaggeration. A lesion which involves the posterior roots or the posterior columns in the region of the second, third, or fourth lumbar segments, such as tabes or transverse myelitis, causes the abolishment of the knee-jerks, and these are the only lesions in the sensory tract that are known to cause such a loss. A lesion involving the motor portion of the reflex arc, such as acute or chronic anterior poliomyelitis, or multiple or isolated peripheral neuritis, affecting the anterior or crural nerves, will also abolish the knee-jerk. The knee-jerk is present in children over three years of age.

1. Loss of knee-jerk associated with severe paroxysmal pains in the lower extremities, with incontinence of urine or slowness in emptying the bladder, with preservation of muscular resistance, with or without incoördination, with or without objective sensory symptoms, is indicative of organic changes in the lumbar segment of the cord, such as tabetic degeneration or a lesion of the posterior nerve roots.

2. Loss of knee-jerk associated with diminished muscular resistance or evident paralysis of the lower extremities, pain in the course of the nerve trunks with tenderness on pressure, some atrophy and quantitative decrease in faradic irritability, with or without objective sensory disturbances and the absence of bladder symptoms, is a clinical picture of multiple neuritis.

3. Loss of knee-jerk with flaccid paralysis, atrophy, and loss of faradic reaction in the quadriceps, and the absence of all sensory symptoms, indicates a poliomyelitis in the lumbar portion of the cord on the same side.

As a general rule the knee-jerk does not disappear so long as there exist in the reflex paths a certain number of healthy muscle and nerve elements. On the other hand, in all lesions which affect the nerves in their totality, the knee-jerk is abolished. In all cases of transverse myelitis, spinal cord hæmorrhage, and traumatism of the cord, if we observe the abolition of the knee-jerks, an unfavorable prognosis should be given. In all cases of chronic, organic intracranial disease, in which indications of the position of the lesion are absent, the occurrence of this symptom suggests a cerebellar process. Changes in the unilateral reflex permit of the diagnosis of a one-sided lesion with great certainty, while an involvement of the reflexes on both sides, excluding polyneuritis, always indicates an affection of the central nervous system in its totality. The knee-jerk is occasionally absent in the early stages of meningitis; it is also absent when there is a supervenosity of the blood, in asphyxia from coal-gas, and in the acute stages of some cases of apoplexy. In distinguishing a genuine epileptic convulsion from simulation, we must consider the absence of knee-jerks and the absence of light reflex with dilated pupils as crucial tests in excluding simulation. The knee-jerk is absent in cases of diabetes only when there is peripheral nerve degeneration. Any obstructive or destructive process involving the upper or cerebro spinal segment of the motor tract is likely to occasion an exaggeration of the knee-jerk. Should the lesion be situated above the crossing of the motor tract, the exaggeration occurs upon the opposite side of the body, while a lesion below would manifest its symptoms on the same side. This exaggeration may be demonstrated after the administra-

tion of certain drugs, as bromide; it may exist, attending primary or secondary degeneration affecting the lateral columns of the cord; it may exist in some cases of hemiplegia, from hæmorrhage in the internal capsule; lastly, it may exist in the early stages of parietic dementia, except in those cases in which the posterior columns were primarily involved. As the knee-jerks are often pronounced or excessive in neurasthenia, hysteria, alcoholism, and mental fatigue, we must admit that in many instances the interpretation of such a symptom is more difficult than the interpretation of the absence of knee-jerks.—Wm. Leszynsky, M.D., in *N. Y. Med. Jour.*; *Internat. Med. Mag.*

A CLINICAL NOTE ON THE TREATMENT OF EPILEPSY BEFORE THE HABIT IS FORMED.

BY E. D. FERGUSON, M.D.

Though many links in the chain which would represent the complete pathology of epilepsy are lacking, enough is known to furnish occasionally a clue to rational treatment, and whether our measures may be addressed to some etiologic factor or be symptomatic as the administration of the bromides for the control or diminution of the attacks, it seems fairly evident that in the majority of instances the longer and more frequently the seizures have been occurring the greater will be the difficulty in abolishing them or diminishing their frequency.

In a general way, the influence of long-continued recurrence is recognized under the name of habit, and is no doubt to be accorded some importance; for it will scarcely be necessary to adduce illustrations of the influence of habit on many of the functions of the body.

Undoubtedly, in the treatment of epilepsy, more brilliant results will obtain in those cases in which the cause is ascertainable and of such a nature and so situated that it can be efficiently treated, and in particular will we be entitled to expect a successful result if the case comes under observation while still showing only the minor forms of its manifestations; but even when we are unable to direct our measures from an etiologic standpoint, and must rely upon the ordinary routine means, if the treatment be thorough and energetic, begun at an early date and continued for a long period, we may cure some cases that would prove incurable if subjected to treatment at a later date. This applies to the cases subjected to any therapeutic whether surgical (at any point from the vertex to the soles of the feet) or medicinal, as the usual course of the bromides. In these cured cases, however, there is occasionally a lingering doubt

that those presenting only the minor manifestations might fail to develop into *le haut mal*, but no one can doubt that a proportion still remains in which if *le petit mal* be relieved the patient is saved from the greater events of the disease.

By way of illustration, I will cite two instances of the minor form, presumably of reflex origin, and associated with that somewhat overworked source of irritation, phimosis.

The first case, a boy about six years of age, had for several months been noticed to act peculiarly during urination. That fact was reported to me, and I requested the parents to note carefully the events occurring at that time; the report embraced the statement that he would defer the act as long as was practicable, and then, when about to accomplish it, would seem agitated as by fear; his face would become pale, he would start backward a step or two, his body would become rigid, and there appeared to be a momentary unconsciousness; but as the urine began to escape these symptoms would diminish so that at the completion of the act, or a few moments thereafter, he would be ready to resume his play or studies.

It was some time before I saw the child for examination, for in response to my inquiry as to the condition of the prepuce, by a mistake I was told it had been examined and pronounced in a normal condition, but the symptoms becoming more pronounced and the evidence of a brief loss of consciousness becoming stronger, I insisted on seeing the child, and an examination showed a phimosis with a pinhole orifice, and at the incision I found the prepuce strongly adherent to the glans over quite a portion of the surface. For two or three weeks after the incision the symptoms continued, but in a gradually diminishing degree, the diminution apparently keeping pace with an increasing confidence that the old sensations had been removed, and finally the trouble definitely ceased without the administration of any drugs.

The other case was that of a lad ten years of age, who had shown no trouble prior to seven months of age, aside from measles when five months old. The first signs consisted of slight convulsive seizures, consisting mainly of rigidity of the muscles of the trunk and oscillation of the eyes, though at eight months there was some paresis of the right side which persisted for quite a period. For about eight years the attacks recurred on the average from three to six times daily, were brief in duration, and were not followed by somnolence, but the frequency would be increased during the continuance of intercurrent illness. During the following two years the attacks did not notably increase in frequency, but they became somewhat more severe, and were followed by a stupid or drowsy state. The father consulted me concerning him in an incidental way, and I advised that he should have him examined, particularly in re-

ference to natal or post-natal injury to the head and the condition of the genital apparatus, for he described the act of urination as difficult and spasmodic. In the meantime I advised the use of bromides to try and control the habit element. As he lived a long distance from me, I heard nothing from the case for some months, when, being in the neighborhood of his home on another case, I again was consulted, and found a well-developed boy of 10, apparently in good health in every way except the convulsive seizures, and some defect in the motility of the right side, presumably due to a mild attack of polio-myelitis in his early infancy. There were defective educational development and somewhat peculiar manners, both of which were doubtless in a measure the result of his having been kept from other children and from school.

The bromides had stopped the convulsions for nearly six months, but they had begun to recur. A tight and adherent prepuce furnished one ground for interference, and I advised that the phimosis be removed, which was done somewhat later, and thereby he was relieved of his urinary trouble, but after a time the convulsions recurred, and he will probably become a confirmed epileptic, though I am convinced that an early operation and efficient medical treatment, particularly if instituted before the epileptic habit had been formed, would have resulted in a cure.

Another case of reflex influence interested me very much. It occurred in the practice of a medical friend, early in my professional work and before the use of the bromide had become so common. The patient, a man, had had several epileptic attacks, when, during an examination of his body for general diagnostic purposes, and while manipulating one foot, a paroxysm occurred. The same event having been repeated at another and not remote occasion, a more critical examination disclosed a small subcutaneous tumor on the dorsum of the foot, and pressure thereon produced a more or less complete epileptic attack. Excision of this growth resulted in a definite recovery.

Another instance will serve to illustrate the importance of thorough measures in the early stages of the disease. A young woman consulted me on account of a single convulsive seizure which had occurred a day or two before. Though realizing fully the fact that a single attack had slight diagnostic value, the description of the fit, as witnessed by a friend, led me to suspect so strongly that it was epileptic that I at once placed her on a bromide treatment, with directions to make certain increase in the dose in case of a recurrence. In a short time she had another attack, and then another, so that she had several within a few weeks. After each fit the dose of bromide was increased, until finally the intervals increased, and after about three months she had the last attack.

The dose of bromide of potash had then reached a little more than two drachms daily, and was continued at that amount for upwards of two years, and then gradually diminished, so that it was stopped at about four years from the commencement of the treatment. This case, like the majority of cases of epilepsy, furnished no evidence as to causation or pathology, and was treated entirely on an empirical basis. If the attacks had been allowed to continue for quite a time, it is fair to assume that the condition would have become more difficult of control, and probably incurable.

I am fully aware that this note contains nothing new, but it has assumed, as is clear to me, that the utility of energetic measures in the early stages of the disease has not been adequately urged or appreciated, and it is then, if at all, that we may hope to eliminate one factor, a minor one though it be, in the continuation of the disease, *i. e.*, the element of habit.—*Jour. Amer. Med Assoc.*

TREATMENT OF GLANDULAR TUBERCULOSIS. CLINICAL LECTURE.

I shall speak to you to-day upon the important subject of the treatment of glandular tuberculosis as illustrated by the young man you see here and on whom we are about to operate for a number of such glands in the cervical region.

In the first place, what is glandular tuberculosis? For a long time it was confounded with scrofula. At present, we know that scrofula is of tubercular character. But is it always so? Certain clinical facts as well as experimentation answers in the negative. In 1871, before the discovery of the bacillus, Shüppel defined in the scrofulous glands the miliary tubercle—masses infiltrated with giant cells. This author has shown pathologically that a good proportion of these engorged glands usually considered strumous are, in reality, tubercular. In 1882 Koch discovered the specific bacillus and demonstrated its presence in two out of every three of these swellings. Moreover, in making these inoculations, he and his assistants found that the glands in which the bacilli were absent, or at least were not found, would give tuberculosis to animals inoculated with their contents. Since then, we have come to deny the existence of the latter and have called everything tuberculosis.

From an etiological stand-point we may divide this form of adenitis into two classes—primary and secondary. But can a primary affection of the glands exist? We must admit it although it is impossible to find the point of entry of infection and although neither in the lymphatic system nor anywhere else can be found either the origin or process of infection. But that point of entrance

by reason of its minuteness, easily escapes detection. The slightest abrasion of the skin—a pharyngitis which deprives the mucous membrane of its epithelium—trivial excoriations of the nose or of the scalp, furnish an opening for the entrance of the bacilli into the lymphatic system.

The secondary form, however, is very easy of recognition. It has a very palpable point of origin and, in most cases, the primary lesion persists after the occurrence of the resulting adenitis. In the neck the origin of the enlarged glands may be found in tubercular lesions of the tonsils, tongue, pharynx, nares and scalp. In the axilla similar lesions of the mammary gland and the various joints (white swellings), in the groin, tuberculosis of the rectum, and like diseases of the knee or ankle. The most frequent lesions are those of the neck (80%); then come those of the axilla and groin. The course of the affection is sometimes quite rapid but usually very chronic. In certain cases, notably in children, one observes a progressive shrinkage or retrocession of the tumor which finally disappears without leaving a trace of its former existence.

In other cases there is observed a sclerotic or fibroid transformation of the gland structure similar to that observed in the lung tissue. These nodules are hard, round, movable, and of an indolent character. At the end of 15 or 25 years, however, there may be witnessed in them a revival of the infectious process. The terminations which are the most frequent, however, are caseation and suppuration—the last being the second phase of the caseation of the tubercular nodule. This cheesy transformation is perhaps very rapid without ending in suppuration. Then at the autopsy one finds no trace of pus but a nodule filled only with these caseous deposits. This is what occurs in acute adenitis. Suppuration, however, which is the natural termination, is more frequent. This tubercular abscess results not only from the caseation, but from suppuration of the inflammatory capsules of the tubercle. Indeed one often meets with periadenitis, the result of tubercular changes in the surrounding tissues and accompanied with affection of the interglandular lymphatics, which become a thick network uniting the previously isolated foci and forming at a more or less early period, adhesions which result in nests of ganglia.

Treatment.—Medical treatment is proper in all forms of glandular tuberculosis and is always of great importance. It is often of itself sufficient to remove engorgements of this nature. The best internal medicament is cod liver oil, which is beneficial from many points of view. Externally, massage and baths may be used. The former is indicated when the tumor is in process of absorption. Compression also, when it is applicable, is an excellent adjuvant. As topical applications iodine or mercurial ointments, or Vigo's mercurial

salve may be employed. As a rule mercury has a very constant and happy effect upon lymphatic glands.

Baths.—Sulphur, chloride of sodium and the like. The saline are more efficacious than the sulphur baths as are also the mixed or alkaline-arsenic waters. The best form, however, of this kind of medication is a sojourn at the seaside. The success attained every year by a residence at the various coast resorts, as Berck-sur-mère, for instance, is strong evidence in behalf of its curative properties. Surgical treatment consists in interstitial injections, incision and curetting and lastly excision. The injection may be made with from five to ten drops of the tincture of iodine. In my own hands, however, this treatment has not succeeded in any one instance. It is considered specially efficacious when the gland is undergoing the process of softening. The injections of iodiform in ether (Verneuil) have given excellent results. In the course of these there has been observed in some cases, a cystic degeneration of the engorged gland. Fowler's solution in progressive doses (8 to 12 drops) which has been advocated in this connection has not given very favorable results (Reclus).

Incision and Curetting.—When the glands are fully softened but surrounded by strong adhesions this is an excellent procedure. In short, the total extirpation of masses of ulcerated glands occupying sometimes the whole half of the neck and traversed by fistulous tracts which involve and affect a large portion of the integument, is oftentimes impossible. In the neck, moreover, one should avoid making large incisions which often result in deforming cicatrices, and content himself with making a small opening in the most dependent portion, performing a rapid curetting followed by a little drainage. This will result in quite a rapid cure.

Extirpation.—This is the most rational operation and the one superior to other modes of treatment. For a long time popular, it is to-day employed exclusively by some surgeons for the bacteriological and infectious nature of glandular tuberculosis, according to the modern pathology, favors total extirpation to the exclusion of all other methods. It may be stated, however, that the latter has not fulfilled all the hopes based upon it.

The points in favor of extirpation are :

1. It does away with the suppuration which, through secondary infection, impairs the general condition of the patient.
2. When through non-interference the glands are allowed to suppurate and open spontaneously unsightly cicatrices result.
3. One arrests by this means the general tubercular condition and infection of the organism.

Contra-Indications.—1. Tubercular adenitis is

very often secondary, consequently extirpation has no effect upon the primitive cause but is only a palliative measure.

2. Extirpation favors metastasis. Though this is a rare complication it cannot be ignored. It is due, in these cases, to inoculation sustained during the operation.

3. Even if extirpation is adopted from choice one is, however, obliged sometimes to abandon it when the number of glands is very great, although I have removed sixty-two in a single subject.

4. It is claimed that the cicatrices from incisions are unduly prominent but they are not retracted and hence do not greatly disfigure the parts.

5. Recurrence is very frequent. This is the greatest objection. It is true that relapse occurs in 25 to 50 per cent. Moreover, when the adhesions are strong, and when total removal is difficult, this procedure becomes less necessary. When suppuration is very free curetting is preferable.

When Should one Perform Extirpation?—When internal medication has failed. When the glands involve the face and by their great size produce severe deformity.

When they are isolated and not numerous.

When they have undergone fibrous degeneration.

When they are not freely suppurating.

General Contra-Indications.—Impaired general health when there exist tubercular deposits in the lungs and joints. In such cases relapse is almost inevitable.

When the ramifications of the glandular chain are very extensive, badly placed and difficult to reach, relapse is probable.—Prof. Le Dentu in *New Eng. Med. Monthly*

CALOMEL AS A SUBSTITUTE FOR IODOFORM.—An Italian physician, Dr. G. B. Percacini, is in the habit of replacing iodoform by calomel for dressing all kinds of wounds and sores, more particularly ulcers of the leg, as well as eczematous resisting ordinary treatment. Where applied, in the form of powder, to a wound which has first been thoroughly cleansed, this substance forms an antiseptic crust, strongly adherent, and when this becomes detached the wound is found to be completely citratized. According to Dr. Percacini, the use of protochloride of mercury for dressings is contra-indicated only in cases of wounds and sores with excessive secretion, seeing that in such cases the pus would be retained under the crust formed by the powdered calomel.—*Med. and Surg. Rep.*

MESSAGE IN THE TREATMENT OF ACNE OF THE FACE.—In a communication made to the Dermatological Society of Moscow (*Dermatologische Zeit-*

schrift, Band ii. Heft 3), Pospelow calls attention to the good results which he has obtained from massage of the skin of the face in the treatment of acne in this situation. By means of massage the lessened tone of the skin, and especially of the sebaceous glands, is increased, and the thickened sebaceous matter expressed from the ducts of the glands. The rubbing should not be done at random, but should follow the direction of the gland ducts and the muscle-fibres of the skin in order that the sebum may be expressed from the glands. Massage should be done for ten minutes at a time, morning and evening, for several months, until the tone of the skin is restored and the openings of the sebaceous glands have diminished to their normal size.—*Am. Jour. Med. Science.*

IDIO SKULLS.—Sir George Humphrey has examined nineteen specimens of idiot skulls, and finds nothing to suggest that the deficiency in the development of the skull was the leading feature in the deformity, and that the smallness of the bony cerebral envelope exerted a depressing or dwarfing influence upon the brain, or anything to give encouragement to the practice lately adopted, in some instances, of the removal of a part of the bony case, with the idea of affording more space and freedom for the growth of the brain.—*Lancet.*

PROFESSIONAL OPINIONS OF INGLUVIN.—Edward Warren (Bey) M.D., C.M.:—"Hereafter I shall prescribe Ingluvin liberally and with great confidence in its therapeutic value."

Charles Low, M.R.C.S.E., etc.:—"Medical men will never regret using Ingluvin."

Edward Cotten, D.N., C.P.P., London:—"Ingluvin is particularly efficacious in vomiting produced by pregnancy."

Waldo Briggs, M.D.:—"I have used Ingluvin extensively and find it far superior to any remedies for vomiting of pregnancy, dyspepsia and indigestion."

CAROTID ANEURYSM.—Two cases of aneurysm, at the root of the neck, both right-sided, presumably carotid, came under the notice of Doctor S. Solis-Cohen. Treatment consisted in rest and the administration of sixty grains daily of hydrated Chloride of Calcium. Marked improvement occurred in one case—the same as was observed in a case of innominate aneurysm that came under the Doctor's care two years ago. In the other case no change has yet been noticed.—*Philadelphia Polyclinic.*

DR. GEO. DOCK, at present Professor of Practice of Medicine and Pathology in the University of Medicine, Ann Arbor, has been elected Professor of Pathology and Bacteriology in the Jefferson Medical College.

OBSTETRICS AND GYNÆCOLOGY

IN CHARGE OF

J. ALGERNON TEMPLE, M.D., C.M., M.R.C.S., Eng.,

Professor of Obstetrics and Gynæcology, Trinity Medical College;
Gynæcologist Toronto General Hospital; Physician to the Burnside Lying-in Hospital.
205 Simcoe Street.ECLAMPSIA: ITS TREATMENT AND A
REPORT OF ONE HUNDRED AND
TWENTY-SIX CASES OBSERVED
IN THE LEIPZIG MATERNITY
HOSPITAL.

BY PROF. PAUL ZWEIFEL.

The material consisted of: *Primiparæ*—ante-partum, 22 with 5 deaths = 22.7 per cent.; intra-partum, 31 with 4 deaths = 12.9 per cent.; post-partum, 13 with 2 deaths = 15.4 per cent. *Multiparæ*—ante-partum, 7 with 0 death = 0 per cent.; intra-partum, 4 with 1 death = 25 per cent.; post-partum, 6 with 0 death = 0 per cent. In 43 cases it could not be stated whether the first convulsion occurred ante or intra-partum, these patients having entered the hospital in an unconscious condition. Zweifel divides the cases into two groups, the first one comprising all cases from April, 1887, to January, 1892, during which time the disease was treated under the expectant plan, while after January, 1892, the more aggressive methods of Dürrssen were adopted with some modifications.

The expectant plan consisted of hot baths, wet packs, and the administration of large draughts of lemonade and liquor potassii acetatis; it aimed to augment the action of the skin and kidneys, in the hope that thus the noxious organic substances circulating in the blood and responsible for the eclampsia would best be removed from the body. Jaborandi and its alkaloid were not given, on account of their tendency to produce œdema of the lungs. Protracted chloroform inhalation was rarely resorted to, as both chloroform and morphine increase the liability to fatty degeneration of the heart. Pulmonary œdema formed in a few cases the indication for venesection. Speedy delivery without forced dilatation of the cervix formed the obstetrical treatment.

Dürrssen's method aims to deliver at once, preferably after the first convulsion. If the soft parts are undilated they are dilated by incision into the cervix and introitus vaginæ. Chloroform must be administered to the surgical degree, but only during the operative manipulations. The different results of the two methods are quite striking, and largely in favor of the aggressive treatment. The cases treated expectantly con-

sisted of 49 cases with 16 deaths = 32.6 per cent., while 80 cases with 12 deaths = 15 per cent., were treated after Dürrssen. Although Zweifel agrees with Dürrssen in the advisability of a speedy emptying of the uterus, his experience shows different and less favorable results. Dürrssen claims that the convulsions cease in 90 per cent. after the uterus is empty, while Zweifel found the convulsions to continue in 48 per cent.

The author also finds that the deep incisions of the cervix are not so free from danger as is commonly supposed; he observed some very alarming hæmorrhages, which in one case caused the death of the woman. The tamponade of the uterus and vagina with iodoform gauze did not always suffice to stop the bleeding, and ligation of the bleeding points became sometimes necessary. For these reasons he warns the general practitioner to be cautious in incising the cervix, as he might be held responsible for having caused a fatal hæmorrhage. In one case death was due to iodoform poisoning after tamponade of the uterus with iodoform gauze; he therefore recommends as a substitute sterilized gauze. Zweifel believes that the favorable results of Dürrssen's method are due not so much to the rapid delivery as to the accompanying hæmorrhage. He has seen the most striking improvement following venesection, and he deplors the fact that such a rational and excellent method of treatment has been completely abandoned, but he predicts its revival. It reduces the blood pressure and lessens the liability to apoplexy. The symptoms of a threatening eclamptic attack are headache, pain in the stomach, and ocular disturbances, accompanied by marked œdema and albuminuria. If this group of symptoms is present the patient must at once be placed upon a milk or vegetable diet; labor should be induced.

Albuminuria was present in every one of the one hundred and twenty-six cases. It was found that if the urine is strongly concentrated and contained blood the prognosis is hopeless. Cases in which immense quantities of albumin were present ended in recovery, but the gravity of the case is proportionate to the quantity of albumin. A rapid, feeble pulse, although a serious symptom, need not preclude recovery. During the attacks the pulse becomes generally feeble and rapid, but

if the pulse does not improve between the convulsions the prognosis is grave. An early rise of the temperature is an alarming symptom; a rapid and steady rise stamps the case a hopeless one. This temperature rise is not, as is commonly supposed, caused by an increased muscular action, but is a result of an intoxication from the organic substances which are retained in the circulation and responsible for the venous thrombosis and necrotic processes in the liver.

The intermediate products of tissue change as the cause of eclampsia.—W. N. Massin has made a large number of physiological experiments which have demonstrated the importance of the normal liver function for the various processes of oxidation in the animal economy, and the physiological and toxicological consequences of carbonic acid. Carbonic acid results from an incomplete oxidation of nitrogenous substance, and its injection or artificial production in animals, causes a train of symptoms closely resembling eclampsia. The microscopical examination of the liver in cases of eclampsia shows pathological changes which preclude a normal liver function, and the kidneys and other organs present the picture which we are wont to find in cases having perished from organic poisons. Based upon these investigations, Massin formulates the theory that eclampsia is the result of a disturbed liver function conditioning an incomplete oxidation and the consequent production of carbonic acid. A urinary analysis of several cases of eclampsia tends to show that: (1) eclampsia is undoubtedly the result of an auto-infection; (2) oxidation of nitrogenous substances is markedly reduced; (3) leucomaines increase enormously before the convulsions, to diminish rapidly, after the convulsions and during convalescence. In the body of every pregnant woman, but especially towards the end of gestation, there circulate increased quantities of incompletely oxidized substances—leucomaines. These become excessive if the functions of the kidney and liver are faulty. But even this abnormally large amount of toxic substances will not produce serious symptoms unless the psychical equilibrium of the individual is disturbed. The various conditions which tend to deviate pregnancy and labor from the normal are the factors which are needed to disturb the balance and arouse the latent forces, which then become manifest and produce the group of symptoms termed eclampsia. This explains why eclampsia is mostly found in primiparæ, and why hydræmia, multiple pregnancy, pelvic contraction, and abnormal presentations are so abnormally frequent—in other words, in cases in which labor is slow and painful eclampsia is most easily produced.

John O. Polak holds that eclampsia is due to a toxæmia in which the entire excretory system plays a part; that constipation bears an intimate relation to this toxæmia; that a pregnancy nephri-

tis is frequently coincident with the occurrence of convulsions, and that an albuminuria is of much less importance than a diminution in urea and total solids eliminated, or a decrease in the amount of water passed in twenty-four hours; and, finally, that while diaphoretic, cathartic, and dietetic measures often improve a nephritis of pregnancy, the woman is never safe with the fetus *in utero*. Therefore the gestation should be terminated in the most surgical manner. *Veratrum viride* in small doses is useful as a prophylactic when the pulse is full, hard, and rapid, as is often the condition preceding eclampsia. After delivery the activity of the skin may be preserved by hot baths, *veratrum* continued in five-drop doses for its diaphoretic and diuretic effect, and active catharsis established with elaterium or croton oil. The ordinary diuretics, as the potassium salts, digitalis, diuretin, etc., are practically worthless to increase the amount of water passed in such an emergency, and do harm by stimulating the renal cells or by increasing the blood pressure in the diseased organ. The forced ingestion of pure water—employing a normal salt solution of 100° F., which is thrown into the colon through a fountain syringe at slight elevation, the patient lying on the left side with the hips slightly elevated—will rapidly increase the urinary secretion. These injections of sterilized water may also be made directly into the circulation, as suggested by Dawbarn in acute anemia.

Veratrum viride in eclampsia.—C. C. Barrows lays stress on the use of *veratrum viride* in eclampsia, believing that although generally appreciated in the Southern States it is in danger of being forgotten elsewhere. After its administration the urinary secretion becomes copious and the patient immediately improves. J. C. Edgar does not believe that any other drug, except possibly chloroform, is as valuable as *veratrum viride* in eclampsia, the latter being almost as prompt in its action upon the skin as upon the heart and kidneys, and, in his opinion, better to employ than the hot-air bath. W. J. Chandler believes in the free use of *veratrum viride* by mouth, as the stomach will reject an overdose, but warns against its use hypodermatically.

R. C. Newton endorses the use of *veratrum viride* in eclampsia and considers that there is no use in emptying the uterus. This procedure adds infinitely to the woman's danger and does not strike at the root of the evil. It is bad practice to increase the strain upon the vital powers. While it is true that, as the strain of labor brings on convulsions, its conclusion will remove the exciting cause, its acceleration adds to the risk; whereas retardation of labor gives the economy more time aided by proper remedies, to prepare for delivery.—*Jour. of Ob.*

HEART DISEASE AND PREGNANCY.—The usual effect of pregnancy upon the heart is to cause eccentric hypertrophy. This is the effect under normal conditions. When, before the onset of pregnancy, the heart is already crippled by a lesion of the valves or by a weak muscularity, the tendency is for dilatation to predominate over hypertrophy. This tendency is influenced to a much greater degree by the quality of the heart muscle than by the valve lesion. Herman B. Allyn states that undoubtedly the most constant effect of pregnancy is to aggravate a pre-existing endocarditis. The risk is so grave that it may well make a woman with heart disease, and particularly mitral stenosis, hesitate before marrying. The outlook in aortic insufficiency is also bad. The possibility of fresh attacks of endocarditis must not be forgotten; these are more apt to occur in younger patients and in those presenting comparatively recent lesions. There is great risk in marrying soon after the subsidence of an endocarditis and before full compensation has been restored. There is very high mortality among the offspring of cardiopaths. It is well to remember this when we feel compelled to advise strongly against marriage, as the patient may be more willing to listen to advice if we urge the very bad prospect of her having living healthy children. As regards treatment, this does not in the main differ from the treatment of heart disease under other conditions.

CYSTIC DEGENERATION OF THE MAMMÆ.—Herbert Snow, well known as an authority on diseases of the breast, in reporting three cases of "recurrence" where one breast had been removed for cystic degeneration, says: After the age of 34, cyst formation is, in my experience, invariably due to a general aberration in the devolution of the entire parenchyma, not merely of one, but, as the following cases show, of both mammæ. There may be found but a single cyst of appreciable size; with this, however, are always associated numerous others, possibly hardly larger than a pin's head, uniformly distributed throughout the gland tissue. If not operatively interfered with the condition may continue until the entire mamma becomes a congeries of cysts, within which, sooner or later, "intracystic vegetations," carcinomatous or sarcomatous, develop. It is brought about, like cancer, by any emotional or mechanical hindrance to the natural processes whereby the mammæ pass to their obsolete phase. When there is redundant formation of white fibrous tissue between the cysts, the tumor is spoken of as a "cystic fibroma"; but there is no essential difference between this and the simpler cystic degeneration. It is best, when operating, to carefully remove the whole breast tissue, and if questioned, as commonly happens, about possible "recurrence," to give a

guarded prognosis so far as concerns the remaining organ. The point that we have here to deal with, a general and not merely a local lesion of the parenchyma, is hardly, I think sufficiently appreciated by the profession at large, but unless attended to may involve the practitioner in some disrepute.—*Lancet*.

THE PROPHYLACTIC TREATMENT OF VESICO-VAGINAL FISTULA.—Schultze (*Central. fur Gynäk.*) calls attention to the fact that cervico-vesico-vaginal fistulæ tend to heal spontaneously, and that they are more frequent after labor than is generally supposed. On the contrary, minute vesico-vaginal fistulæ often require operative treatment.

Prolonged pressure of the head in delayed first stage after premature escape of the liquor amnii, especially in cases of contracted pelvis, is more apt to be the cause of cervico-vesical fistulæ than is instrumental delivery, although the laity are prone to attribute it to the latter. The unwise use of ergot is another prominent etiological factor. After all difficult labors, in which the bladder has been subjected to prolonged pressure, the urine should be drawn regularly every eight hours for a few days. By adopting this simple procedure a considerable proportion of the cases of vesico-vaginal fistulæ can be prevented.—*Amer. Jour. Med. Sci.*

VAGINAL HYSTERECTOMY WITH CLAMPS.—Laudau (*Central. fur Gynäk.*) reports 277 cases of hysterectomy in which clamps were employed, 112 for malignant disease with eight deaths, 54 for fibro-myomata with two deaths, and 109 for disease of the adnexa with a single fatal case. With the exception of one woman, who suffered from a fistula, the patients were entirely cured. The bladder was injured once, the ureter once, and the intestine five times.

The writer insists upon the necessity of thorough work. All diseased tissues should be removed; at the same time a conservative course should be followed wherever this is possible. He approves strongly of Dührssen's exploratory incision through the anterior vaginal fornix.—*Amer. Jour. Med. Sci.*

ADHESION OF THE APPENDIX TO THE PELVIC ORGANS.—Chognon (*Central. fur Gynäk.*) has collected statistics showing the frequency with which the appendix vermiformis is adherent to the pelvic organs. In twelve cases it was adherent to diseased adnexa, in twenty to ovarian tumors, once to an ectopic sac. The practical deduction is to examine the appendix in every cœliotomy in which adhesions are separated, and if it is adherent and sustains even the slightest injury during the separation, to extirpate it in every instance.—*Amer. Jour. Med. Sci.*

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS

IN CHARGE OF

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A CONTRIBUTION TO THE STUDY OF
THE SYMPTOMS OF HYSTERIA,
SIMULATING VARIOUS VIS-
CERAL AFFECTIONS.

BY DRS. MASSALONGO AND FARANATI.

In a hysterical woman thirty-six years of age, Drs. Massalongo and Faranati, had occasion to notice some very curious symptoms, which simulated round ulcer of the stomach and pulmonary phthisis. The patient at first presented a perfect clinical picture of simple gastric ulcer, characterized by attacks of violent gastralgia, with vomiting, sometimes of food, sometimes of blood or even composed of pure blood and accompanied at times by an intense fever and abundant perspiration. The abdomen was enlarged, the stomach dilated and the slightest pressure on the epigastrium induced intense pain. All the means usually employed in the treatment of round ulcer of the stomach (nitrate of silver, an appropriate regimen, etc.) were tried in vain in this case. Morphia alone calmed the attacks of gastralgia, subsequent observation having shown that in spite of the persistence of the symptoms of ulcer of the stomach, the general condition and the weight of the patient's body were not sensibly changed, the conclusion was reached that the affection was of nervous origin. This conclusion was further confirmed when it was found that by means of suggestion exercised when in a state of wakefulness (in administering, for example, an indifferent medicine which the patient was assured, was very active) the pain vomiting and hæmatemesis was immediately removed. The conclusion became a certainty when one day the gastric troubles suddenly ceased and all the symptoms which are characteristic of pulmonary tuberculosis appeared in their stead: cough, sometimes dry and sometimes accompanied by muco-purulent expectoration, hæmoptysis, thoracic pain; remittent

or intermittent fever, nocturnal sweats, anorexia, diminution of thoracic resonance, and of the respiratory murmur at the apices, subcrepitant râles and jerky respiration. All these symptoms were equally influenced by suggestion and in spite of their persistence they did not exercise any action whatever on the patient's general condition. It was necessary, therefore, to consider them of an hysterical nature; in fact the microscopical examination showed in this case the complete absence of elastic fibres and of the bacillus of Koch in the expectoration.

Another patient of Drs. Massalongo and Faranati, forty years of age, whose family was decidedly hysterical, presented attacks precisely like those of hepatic colic. They consisted of an acute pain in the epigastrium radiating to the right hypochondrium and accompanied by vomiting. These attacks usually followed some vexation and were at times accompanied by a very manifest icterus of short duration as well as by hysterio-epileptic convulsions; they could be removed by hypnotic suggestion; this case was then one of pseudo hepatic colic with emotional icterus of hysterical origin.

Finally these authors observed in a young girl of sixteen, the symptoms of acute hysterical peritonitis. This patient experienced abdominal pain, which was augmented by the slightest pressure. The abdomen was distended, the pulse filiform, the skin extremely pale and the facies clearly peritonitic. An intense fever was present and percussion showed, in the lower part of the abdomen, a manifest dullness indicating a peritoneal exudation. In short, the condition of this young girl was so grave that an approaching dissolution might be expected, when one day, in consequence of a severe scolding which it was necessary to give her, all these morbid and so unquieting phenomena suddenly disappeared.

From these observations Drs. Massalongo and Faranati conclude that besides the local or peripheral manifestations of hysteria already well-known, there exist some hysterical manifestations implicating the viscera, which may simulate among others, round ulcer of the stomach, pulmonary phthisis, hepatic colic and acute peritonitis. The differential diagnosis of these various

forms of visceral hysteria, the acquaintance of which is in the highest degree interesting to the general practitioner, is often most embarrassing. The effect of suggestion either in the state of wakefulness or during hypnotic sleep, as well as an intense emotion may at times singularly facilitate it.—(Translated from *La Semaine Médicale* by CAMPBELL MEYERS, M.D.

THE RATIONAL THERAPEUTICS OF INFANTILE CONVULSIONS.

BY WM. A. DICKEY, A.M., M.D.

In studying the convulsive seizure of children it must be understood that it is not a disease, but merely a symptom; that it occurs at a time of rapid development both of the nervous and muscular system; that both are unstable and easily disturbed, either by irritants or by the thermic center being thrown out of balance through the influence of toxic agents generated within the alimentary canal, or taken into the body by means of the respiratory system, or otherwise.

The first and most important element in the treatment is to remove the cause as far as possible. Unfortunately, this cannot always be done. Dr. J. Lewis Smith, who has done so much for American medicine, says in his work on "Diseases of Children": "Inasmuch as the physician is often required to treat eclampsia in ignorance of the cause, the same measures are demanded, to a considerable extent, in all cases. As early as possible in the attack the feet should be placed in hot water, to which mustard is added, or if it can be procured with little delay a general warm bath may be used in place." Osler, in his classical work on "Practice," approves of this procedure by saying: "The practice is almost universal of putting the child into a warm bath, and if there is fever the head may be douched with cold water."

Some years ago I was summoned hurriedly to a child in spasms. Arriving at the home I found the mother watching in agony the writhing of her first-born, a boy of six summers, in convulsions. The eclamptic seizure had about spent its force when I reached his bedside. I placed a thermometer in the axilla, and then began an investigation of the case. The family history was negative except as to the mother, who proved to be nervous and irritable. On the night preceding the attack the patient had been restless, tossing from side to side with fever, which gradually increased until the explosion took place. I examined the body to see if any eruption could be found. None was visible. He had had scarlet fever. Pneumonia did not exist. Inquiry as to diet elicited the fact that on the day previous a large amount of food had been taken other than that usually consumed.

The thermometer was now examined and found to register 104°. The thought occurred to me that it was hardly logical to put a body with this temperature into water that would register 115°. I did the opposite. I called for the two bowls of water, one to contain cold water and the other lukewarm. The entire body and limbs the mother sponged with the tepid water, following this by brisk friction, while I applied the cold water to the face and head, hands and forearms. The lukewarm water now had cold water added to it until it too was cold, when the body was again sponged. This was repeated, followed each time by friction. In twenty-five or thirty minutes the temperature was nearing the normal, and the bath was suspended. An enema was ordered, and in addition three grains of bromide of soda, with two drops of tincture of gelsemium, was to be given every two hours (except when the child was asleep) until my return the following day. In addition to this, one-fifth grain of mild chloride of mercury, with one grain of subnitrate of bismuth, was to be taken hourly until the bowels moved freely. On the following morning I found the little fellow free from fever and feeling splendidly, having slept well during a greater portion of the night. The interval between doses of the soda and gelsemium was lengthened to three hours, and continued through the day. He was to be kept in bed and free from all annoyance.

Other remedies than these I have indicated can be used during the paroxysm. The inhalation of chloroform can be practised, but it should never be intrusted to the hands of those ignorant of its effects. Chloral, by the mouth or rectum, will be beneficial. It may also be combined with bromide of soda. Morphine, hypodermically, in one-thirtieth grain doses, to a child one or two years of age, may be given safely, and repeated in an hour or two if necessary. There are cases in which some one of the coal-tar series will be of unquestioned value, but they, too, must be given with circumspection, and not at all after the fever has subsided, on account of their very great depressing effects.

It is the duty of the physician, then, in my opinion, when called to the cases, to first use a thermometer (of tried exactness), no matter how urgent the symptoms. While he is waiting for the instrument to register, a history of his patient can be gleaned. Some knowledge of its ancestry should be elicited. Is it inclined to rickets? Has it now or has it had scarlet fever, measles, whooping cough, or pneumonia? With this survey of the case he is ready to read his thermometer, and if it indicates a temperature of 103° or more, and the extremities not cool, I do not hesitate to say, if you will pardon the apparent dogmatism, that a hot bath is not indicated. I believe it does more harm than good.

With the boldness that comes from confidence and experience, the sponge bath in the manner indicated is discarded, and the child is stripped nude and the entire body wrapped in a sheet previously wrung from cold water. Injection of cold water into the rectum has been practiced, and I am sure if the bowels could be well filled and the water retained for some time it would prove beneficial.

Under the influence of cold bath, not only is bodily heat dissipated, but inspiration, which is short and shallow, becomes much longer and deeper. As a result, more oxygen is taken into the blood and the carbolic acid in excess is liberated. The blood becomes purer and the brain cells and nerve centres are in consequence supplied with a more healthy pabulum, and thus enabled to perform their function in a normal manner. The heart, which has been rapid and irregular, and many times very weak, is given tonic, and forces the healthy blood in even currents to all parts of the body. The kidneys secrete an increased amount of urine, and from all avenues of the organism ptomaines, which had been circulating through brain, nerve and muscle, and are an important element in producing the eclampsia, are in this way liberated and gotten rid of.

I am aware that, even in a progressive age like the present, methods of procedure, sanctioned by high authority and hoary with years, are not easily changed. More particularly is this true of those affections with which we seem to be familiar by frequent contact. It is well, however, for us at times to cast about us, take new bearings as it were and see if from this vantage ground some step forward cannot be taken. This, I am sure, will be true in convulsions of infants if the plan of treatment outlined in this paper is followed.—*Col. Med. Jour.*

EXAMPLES OF FALSEHOODS OR APPARENT FALSEHOODS IN CASES OF HYSTERIA.—Dr. Vibert has reported two interesting examples of what he terms "pathological" falsehoods. The fabrications of hysterical patients are generally not falsehoods, as these persons are not conscious of the falseness of their statements, and as these latter are based upon real deceptions of memory. The first case, a servant girl, 28 years old, is found gagged on the floor, on her mistress' return to the house. She claimed that a burglar had entered the house and maltreated her in this way. The circumstances rather indicated that the assault in question was a feigned one. Nothing was stolen. The cause of this comedy was not ascertainable. The girl had been hysterical for a number of years, and had for some days been subject to feelings of oppression and marked persecutory ideas. On the day of the feigned assault she was apparently in an abnormal mental state,

probably somnambulism. As soon as she became lucid, after a few hours, she recognized at once the autosuggestive deception, to which she had been subject. The second case was that of a man, 30 years of age, who had presented symptoms of hysteria virilis. He was a person of very lively imagination; had heard of the railroad accident at St. Maudé, claimed to have been present and to have suffered severe injury. He sent in a claim for damages which was rejected. In 1892 he appeared at a police station quite exhausted, vomiting blood, accusing a certain coachman of having wilfully driven over him. He was taken to the hospital, and on account of the presence of abdominal symptoms, a laparotomy was performed, but no internal injury was discovered. The investigation of the affair did not develop any satisfactory case against the coachman, but on the contrary made it probable that the whole story was invented by the accuser; i. e., that it was a case of autosuggestion. It appeared that the latter had no intention of hurting anyone by the accusation, as he was so convinced of the reality of the injury as to permit the performance of a laparotomy.—*Annales d'Hygiene Publique.*

OPERATION IN GENERAL SUPPURATIVE PERITONITIS.—The principal reason why surgeons have not succeeded in saving life oftener by operation in these cases is, in the opinion of Miles F. Porter, because the operations have been done too late. He has operated in three cases—two *in extremis*, both of which died, and in one five days after an attempted abortion. As soon as the peritoneum was incised there escaped a large quantity of turbid, stinking serum, followed later by pus of the consistence of cream. There were no adhesions, the pus being free in the peritoneal cavity. This was thoroughly flushed with hot salt solution and drained with a glass tube. The second day threatening symptoms necessitated a second flushing. Patient recovered.—*Int. Jour. Surg.*

SURGICAL SHOCK AS A CAUSE OF DEATH IN WOMEN.—Charles P. Noble hits the nail squarely on the head when he says: "Deaths from shock in women after abdominal and pelvic operations, as a broad statement, are so many unnecessary deaths, and represent deaths from hæmorrhage or from greatly prolonged operations. Of course the exceptions are the operated upon *in extremis*, and these operations are seldom attempted except by the more courageous of well-trained gynecologists.—*Med. News.*

SANMETTO.—I have been using Sanmetto for several years, and find it invaluable in nearly all kidney and bladder troubles, especially those accompanied by irritation or inflammation of the mucous membranes, as well as in sexual decay and pre-senility.—Wm. F. Mitchell M.D., Addison, Pa.

PATHOLOGY AND BACTERIOLOGY

IN CHARGE OF

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VASOMOTOR ŒDEMA WITHOUT ALBUMINURIA.

Tchirkaff, in an interesting article, calls attention to a new syndrome, characterized by great œdema without appreciable organic disease. He has studied six cases between 1886 and 1894. The patients were all men of from twenty-five to sixty years of age, generally of a good constitution, though some of them slightly anæmic.

In the cases presenting anæmia the œdema developed slowly over a period of three to four months; in the plethoric subjects it developed much more rapidly.

The anæmic cases strongly resembled the picture presented by cases of chronic nephritis. In the non-anæmic cases there was a different picture, anasarca coming on rapidly in the space of a week or so, the peritoneal cavity filling with fluid, and in the course of the next two weeks the pleural and pericardial cavities also showing signs of exudate. The face, trunk, and extremities all became swelled at the same time.

At times only the upper extremities were œdematous, but usually the lower were most affected. In some cases the œdema affected mostly the neck, face, chest, and upper arms. Certain patients lost the hair from the eyebrows, beard, moustache, and pubes at the time that the œdema appeared; the hair of the head also became very thin and of a softer texture, and changed its color somewhat. The cases all ended in recovery.

Most careful examinations showed that there was no nephritis in these cases; the urine was repeatedly examined, and albumin was never present, showing that they were not cases of chronic nephritis with temporary absence of albumin; there were never, moreover, any signs of uræmia or kindred symptoms.

The blood was carefully examined in all cases, and no changes were found either in the number of corpuscles or the percentage of hæmoglobin; a large percentage of reduced hæmoglobin was, however, always present.

The heart was negative in all the cases, and there were no frank signs of hepatic cirrhosis.

The majority of the patients either showed signs of or gave a history of a preceding lues.

From the increase in the reduced hæmoglobin,

and the fact that there were no signs of deficient oxygenation in the lungs, or venous stasis, Tchirkaff concludes that we must be dealing with a stasis in the venules and capillaries probably of vasomotor origin.

As the result of his observations he formulates the following conclusions:

1. There exists a form of disease but little known, characterized by general œdema, with effusion into the serous cavities, without albuminuria; at the same time the heart, lungs, liver, and other organs show no change capable of causing œdema from blood stasis.

2. These œdemas are of a vasomotor origin and can be called "general vasomotor œdemas."

3. They are characterized by, and often accompanied by, dilatation of the right heart and moderate artero-sclerosis.

4. They are always accompanied by changes in the blood, *i. e.*, the hæmoglobin is reduced in excess. Beyond this one occasionally sees trophic trouble and pronounced paralysis of the veins of the skin.

5. In most cases these œdemas are of syphilitic origin, and disappear under treatment by mercury and the iodides. It is possible that the œdema without albuminuria, from which the African soldiers suffer, does not always occur from cold or the formation of ptomaines from indigestion.—*Revue de Médecine; Am. Jour. Med. Sci.*

THE THERAPEUTIC VALUE OF TOXINS IN MALIGNANT TUMORS.—Dr. W. B. Coley, of New York, gave his experience with toxins, mostly mixed toxins of erysipelas and bacillus prodigiosus, in the treatment of malignant tumors. The number of patients so treated exceeded one hundred. The greatest benefit had been in sarcoma. He said that he did not propose to discuss the theories on which the treatment of cancer by toxins is based, but he would give the results of his practice in that direction during over four years, which he had spent in the application of the treatment at the New York Cancer Hospital. I do not say that all cases of cancer can be cured by the toxin treatment. I can only give to the profession the results which have been reached by the use of the erysipelas serum and other toxins. I have had

good results in many cases of both sarcoma and carcinoma. In some cases the patients have been greatly benefited by the treatment, and their lives have been certainly prolonged, if an entire cure has not been achieved. In the most successful cases the malignant growths have been entirely abated, no symptoms of their presence can be detected by the most rigorous examination, and the patients are in apparently perfect health. There has been no recurrence of the cancerous growth since the cessation of the treatment, although the time from the cessation of the treatment in the different cases ranges from seven months to three years. The reason that other practitioners have not been as successful and have not achieved such good results as I am able to report, can probably be traced to the fact either that the treatment has been slipshod or has not been sufficiently persisted in. All the cases which I have treated successfully have been pronounced inoperable by the best authorities in this and other cities, owing to the position of the malignant growths or other conditions. Several of the patients had been operated on previously, and came under my care at the hospital on a recurrence of the cancer. In cases where the toxin treatment was successful, the patients are now going about apparently in perfect health.

Dr. Coley then enumerated eight cases which had been treated by him with success. He detailed at length the condition of the patients when they came into his hands, the exact nature of the malignant growth from which they suffered, and the course of treatment pursued in each case. Six of Dr. Coley's patients who had been successfully treated—four women and two men—visited the hall, and the doctors subjected them to a rigorous inspection.—*Med. Rec.*

THE ANATOMY OF CARCINOMA UTERI.—Veit (*Central. fur Gyn.*) makes some important practical suggestions growing out of his more recent anatomical studies of this subject. He does not think that sufficient attention has been paid to the different varieties of cancer in the giving of a prognosis as regards recurrence after hysterectomy, nor is he inclined to agree with Winter in his statement that a considerable proportion of such recurrences are due to the infection of healthy raw surfaces during the operations. He divides cases of carcinoma of the cervix clinically into those in which the disease is situated in the portio or in the cervical canal, and in which it appears in a nodular form in the cervix, or, as disease of the corporeal endometrium. Primary nodules in the cervix originate in the connective-tissue, and are now regarded as endothelioma. As regards extension of the disease, the writer has often found cancer-cells in the lymphatics of the broad ligaments; when these infected vessels are divided during operation

it is natural to infer that they form foci, from which a rapid recurrence takes place. The latter form of recurrence is characterized by the fact that the metastatic deposits present the same histological structure as the primary disease, and that they rapidly invade the deeper tissues. The simultaneous appearance of two apparently independent primary cancerous nodules can usually be explained by referring the more deeply-seated one to secondary infection.—*Am. Jour. Med. Sci.*

EFFECT OF INFLUENZA ON THE FEMALE SEXUAL ORGANS.—Müller (*Munch. med. Woch.*) noted the condition of the pelvic organs in 157 cases of influenza, 21 women being pregnant. Of the latter 17 aborted. Of the non-gravid women all but three showed symptoms of uterine disturbance, either hæmorrhage or aggravation of previous troubles. Hæmorrhagic endometritis commonly developed, as in cholera, typhus, and other infectious diseases. After the decline of the disease the uterus was frequently found to be enlarged, and evidences of chronic endometritis were present, which seemed to be directly due to the influenza.—*Am. Jour. Med. Sci.*

A CASE OF TRISMUS AND TETANUS NEONATORUM.—Baginsky (*Berlin. klin. Woch.*) records a case under this title in a strong, well-nourished female infant nine days old, who had been ill for twenty-four hours. The case was submitted to antitoxin treatment according to the method of Behring and Kitasato, six injections being given over a period of four days. Death occurred upon the fifth day of the disease. Cultures of serum from the navel made on the second day of the disease showed the tetanus bacillus, and produced in a mouse typical tetanus and rapid death.—*Am. Jour. Med. Sci.*

PUERPERAL TETANUS TREATED BY TIZZONI'S ANTITOXIN.—In the *Deut. med. Woch.*, Walko describes a case of puerperal tetanus treated by antitoxin in von Jaksch's clinic at Prague. The treatment was unsuccessful, the patient receiving in all 18 injections, comprising 31⁶/₁₀ grammes. Well-marked leukocytosis developed after the second injection. As has been shown by Kitasato, tetanus bacilli could not be recognized. The clinical picture, however, of tetanus was a perfect one.—*Am. Jour. Med. Sci.*

THE DISINFECTING OF THE HANDS.—Reinicke contributes an article upon this subject to the *Archiv. fur Gyn.* He concludes from an elaborate series of experiments that the hands should first be cleansed with hot water and soap, and brushed for five minutes; then brushed from three to five minutes in 90 per cent. alcohol, and afterward in an aseptic fluid. The quickest method of disinfecting the hands consists in brushing them vigorously in alcohol for five minutes.—*Am. Jour. Med. Sci.*

NOSE AND THROAT

IN CHARGE OF

J. MURRAY MCFARLANE, M. D.,

Laryngologist to St. Michael's Hospital. 32 Carlton St.

DIGITAL EXAMINATION IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THROAT AND NOSE.

Dr. S. Kohn, in a paper on this subject, spoke of the importance of a diagnosis in the practice of medicine. Clinically, palpation and digital examination had been considered of the highest importance in physical diagnosis. While inspection ranked first, palpation was a close second, since it revealed characteristics which the eye could not see. The author thought the general practitioner had neglected digital examination in diseases of the throat and nose, and he wished to emphasize its importance. He advised supplementing instrumental examination by a careful palpation of the parts, after thoroughly disinfecting the hand, introducing the index finger to the posterior pharyngeal wall, cautiously palpating the tonsils and perhaps the nasopharyngeal space and upper larynx, and feeling certain changes which the eye could not see. The change visible to the eye was a change in conformation, such as that of enlarged tonsils and that of tuberculous swelling of the epiglottis or of the arytenoid cartilages, while the index finger could feel whether the tonsil was made up of dense organized connective tissue or of soft granulation tissue, and this would enlighten one as to the method of abscission to be followed, whether with guillotine or with the snare, as is in the hard connective-tissue tonsil the danger from hæmorrhage following the operation with the amygdalotome was greater than that following the use of the cold snare or the cautery loop. Again, the eye detected a swelling running along the border of the posterior faucial pillar; the index finger would feel that this swelling was hard and unyielding, pointing to the diagnosis of possible incipient malignant disease; and implication of the submaxillary lymphatics, discoverable by palpation, made the diagnosis a certainty. While a tense, glazed, protuberant swelling seen upon the posterior pharyngeal wall of a child led to the supposition of retropharyngeal abscess, the detection of *fluctuation* by the index finger left no room for doubt as to the diagnosis. While cleanliness was the first requisite to a proper digital examination of the throat, the second was gentleness of manipulation, and the third a thorough knowledge of the normal topography and feel of

the parts. He spoke of its use in adenoid vegetations, where often a rhinoscope examination was impossible. If the mass was soft, pulpy, and easily crushed, it could perhaps be removed by crushing and scraping with the nail at the time of examination. If the child was enveloped in a strong band of toweling, imprisoning both upper extremities, and held sitting upright upon the lap of a nurse, the entire operation could be completed in a few moments without narcosis, with or without instruments. Digital examination was invaluable in detecting malignant disease of the throat, as careful palpation with the index finger would reveal induration, raising the question of malignancy, which would be settled by a microscopic examination. In follicular amygdalitis it was of great value. Foreign bodies were often felt by the finger when they could not be seen by the eye. In diseases of the nose the tactile sense had not such a wide field of application. The author spoke of a case of rhinolith which the index finger had succeeded in dislodging after all instruments had failed. In the Asch operation for deflection of the nasal septum the index finger had succeeded in dislodging after all instruments had failed, being introduced into the nostril on the the fractured septum over to the other side, after side of the convexity of the septum, and pushing which the splints were introduced.—*N. Y. Med. Jour.*

FOREIGN BODIES IN THE OESOPHAGUS.—Dr. H. M. Silver, of New York County, read a paper on this subject and reported several cases. He objected very strongly to the old sponge probang as an instrument that could be of little use or furnish much information regarding a foreign body in the oesophagus. The best instrument for such exploration, he said, was a *bougie à boule* provided with several sizes of bulbs and with a metal stem having graduations by which the operator could tell the exact distance of the body from the upper incisor teeth. It was dangerous, he said, to attempt to extract or push down small angular bodies with jagged edges. If a solid body of irregular shape was swallowed, it should be promptly removed by incision, as experience had shown that the prognosis depended more upon the length of time an object was impacted than upon its size.

Dr. George Fischer had shown that out of twenty-eight deaths, eighteen had been caused by conditions which had been preventable. It should be remembered in exploring the œsophagus that there were two natural constrictions—viz., one at the cricoid cartilage, or seven inches and a half from the teeth; the other, at the cardiac orifice, or fourteen inches and a half from the teeth. Where the object to be reached was distant thirteen inches or more from the teeth, gastrotomy was the proper operation; if less than thirteen inches, œsophagotomy. Suturing the œsophageal wound was not essential, and if the foreign body had been long impacted, or if the œsophageal wall was infiltrated, ulcerated, or gangrenous, it should be left open. Ordinarily one or two sutures might be passed through the upper part of the external wound and the remainder carefully packed with iodoform gauze. The external wound should never be completely closed. Absolutely no food should be given for the first twenty-four hours after the operation, but if the patient suffered much from thirst this might be relieved by enemata of water. The author did not approve of rectal alimentation, considering it neither efficient nor necessary. The passage of a feeding tube into the œsophagus was both unsurgical and dangerous. After the first twenty-four hours liquid food might be given by the mouth, and its escape through the wound could be for the most part prevented by the application of a cotton compress during the act of deglutition. The operation of œsophagotomy, the author said, was now much more frequently resorted to than formerly, with the result of saving many lives. The mortality in a hundred and sixty-five collected cases of œsophagotomy was twenty-three per cent.—*N. Y. Med. Jour.*

THE HERPETIC FORM OF DIPHThERITIC ANGINA.

—At a recent meeting of the *Académie de médecine*, a report of which is published in the *Press médicale*, M. Dieulafoy related the histories of five cases, the first of which came under the observation of M. Kelsch, who found the diphtheritic bacillus in a case of angina presenting all the characteristics of a common herpetic angina. The second case was one of M. Huchard's; it broke out very suddenly with intense symptoms, and was accompanied by herpes of the pharynx and of the lips. M. Huchard made a diagnosis of herpetic angina, which was confirmed by M. Brocq. At the end of a few days the child died from the disease, which proved to be malignant diphtheria.

M. Roche related the case of a young woman who suffered with an acute angina accompanied by a confluent eruption of herpetic vesicles, the diphtheritic nature of which was proved on the following day. The cultures contained diphtheritic bacilli associated with streptococci. The

angina was followed by a scarlatinous eruption, which developed like that of classical scarlatina. This, said, M. Dieulafoy, was rather a curious case, as it was well known how rare diphtheritic angina was at the onset of scarlatina. M. Martin had observed two cases, the first in a child five years of age, who presented an angina with herpetic vesicles; on the tonsils there was a false membrane, which proved to be of a diphtheritic nature. The second case was that of a child, six years old, who presented an acute angina with a temperature of 104° F. The tonsils were enlarged and covered with a light pultaceous layer, and the lips showed a group of herpetic vesicles which contained long diphtheritic bacilli.

There seemed therefore, said M. Dieulafoy, no doubt in regard to this question, and he thought that in the future we must consider it an assured fact that a number of the so-called herpetic anginas were diphtheritic in their nature.—*N. Y. Med. Jour.*

THERAPEUTIC NOTES.

TREATMENT OF ACUTE CORYZA.

One of the most successful treatments of acute cold in the head is to begin with:

R—Pot. bicarb., gr. xx.
Sodæ salycilas, gr. xv.
Aq. menth. pip., āā ʒjss.—M.
Sig.—This to be taken three times daily.

R—Pil antineuralgic (Brown-Sequard) ij.—
Sig.—Take one pill daily.

R—Cocaine mur.,
Menthol,
Camphor, āā gr. j.
Pulv. amyli., ʒj.—M.
Sig.—To be used as a snuff, three or four times

a day.

ACUTE TONSILLITIS.

In acute tonsillitis of the follicular variety, the ammoniated tincture of guaiacum in teaspoonful doses given in a little milk every four hours acts almost as a specific.

TUBERCULAR LARYNGITIS.

In tubercular laryngitis Dr. Fletcher Ingalls, of Chicago, uses:

R—Morph. sulph., gr. iv.
Carbolic acid, } gr. xx.
Tannic acid, }
Glycerine,
Aquæ, āā ʒiv.—M.
Sig.—Apply to larynx with brush.

Med. World.

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Preparations of nuclein made from plant life are not directly assimilable in the organism.

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Editorial.

OUR NEW SERIES.

We present to our readers this month the initial number of our new series. We trust they may all be pleased with the change, as we hope it may be advantageous both to them and to us.

It will be noticed that we have increased the number of pages of reading matter from 32 to 40, double column. This style and shape of journal will be continued till the end of the present volume—August next—when further changes in the way of improvement in its appearance will be carried out, and an additional 16 pages added.

We have also, following the example of the best home and foreign journals, divided the reading matter into sections, each under the supervision of a medical man making a specialty of the respective subjects. Drs. J. Algernon Temple, N. A. Powell, Geo. A. Bingham, Campbell Meyers, H. B. Anderson, and J. Murray McFarlane, have come in with us, and we feel certain that with such a strong staff of associate editors, our readers will appreciate an improvement in the reading matter we give them. Dr. J. L. Davison has charge of the editorial department, and Dr. G. P. Sylvester is now business manager.

We hope our readers will send us reports of interesting and instructive cases, with photographs when possible. We will furnish a reasonable number of reprints to any author sending an accepted article; or, if preferred, a cash honorarium instead.

DOUBTFUL POINTS IN THE MANAGEMENT OF ABORTION.

In an interesting and instructive paper by Dr. Charles P. Noble, in *The Therapeutic Gazette*, the author holds that neither the discharge of blood, nor contractions of the uterus, nor both together, are signs that abortion is inevitable. He has seen, as most of us have, these symptoms subside under appropriate treatment, and the case go on to full term, with a normal delivery.

He gives two cases, one reported by Scanzoni, in which a woman who was seized with profuse metrorrhagia in the third month of pregnancy discharged great numbers of clots; as all hopes of saving the ovum were abandoned, ergot was used in large doses, and tampons were placed in the vagina. After thirty-six hours, a sound was employed to explore the uterus; and finally, as the bleeding continued for three weeks, an intra-uterine injection of a weak solution of perchloride of iron was resorted to. Eight weeks later the patient quickened, and presented the distinctive evidences of a pregnancy advanced to the sixth month.

The other case came under his own observation. In this, pregnancy had continued in spite of systematic application of pure carbolic acid to the endometrium, continued over some weeks. When, however, there is dilatation of the cervix, and descent of the ovum, he considers abortion inevitable, and no attempt should be made to prevent the expulsion of the ovum, especially if the discharges are foul and the patient febrile.

Dr. Noble considers that abortion is complete when, as under the old classical definition, the uterus is emptied of all portions of placenta, membranes and clots.

The dangerous period is at about three months. Up to two months the question is not so important, as nature usually takes care of such abortioun without much aid from the doctor. Also, after the fourth month there is not much difficulty in determining whether the uterus has emptied itself.

He thinks that a patulous uterine canal and continuance of hæmorrhage are signs that the abortion is not complete. The general opinion now is, that in the treatment of abortion, when infection has occurred, curettement of the uterus

under full antiseptic precautions should be undertaken. The uterus should be irrigated with an antiseptic solution after curettement.

If, however, the infective process has extended to the tubes, or to the broad ligaments, with inflammatory conditions in the pelvis; or to general peritonitis, or to septicæmia, then too much importance should not be placed upon uterine irrigation. This does not influence for good the processes in the deeper portions of the uterus or those which have extended beyond it. He indeed holds that such cases are injured by any manipulation such as would be necessary to irrigate the uterus.

His experience is that irrigations are not necessary for more than one or two days, if the operation of cleaning out the uterus has been properly performed at the outset, and that douching after two days is a source of harm rather than of good.

As to operative proceedings after septic abortions, the author holds, that after all proper proceedings, such as curettement, douching, and a pencil of 50 grams of iodoform introduced into the uterus, and subsequent douching have been performed, and the inflammation still spreads, that while the disease is localized either in the tubes, pelvis or broad ligaments, no operative measures are called for. Proper diet, mild purgation, ice or very hot applications to the hypogastrium, the exhibition of quinine and strychnia, etc., should be applicable to all such cases.

But if evidence of pus formation show, or if general peritonitis supervene, or a condition of septicæmia come on, *operation is indicated*. Up to the present time, abdominal section, removal of diseased structures, irrigation and drainage has been the accepted plan of treatment. At the present, many hold that vaginal hysterectomy is the proper method to pursue.

If general septicæmia exists, and the case is going on from bad to worse, Dr. Noble holds that operation, either abdominal or vaginal, is eminently proper, and promises to save the lives of many who, under the expectant plan of treatment, would die.

The objection, that many women would be unwarrantably subjected to hysterectomy, is not in his opinion valid, inasmuch as the patients are so ill that no surgeon would desire to operate upon them, except under the conviction that by doing so the patient's chances for life would be in-

creased. Such cases are those in which the women have been violently ill from the beginning, and who either improve or die within a week from the time the septic symptoms appear.

SEPTIC INFECTION, INTOXICATION AND PYÆMIA.

Now that antiseptic surgery attempts the cure of surgical diseases, and the performance of operations, in a manner calculated as far as possible to avoid the entrance into the circulation of any septic material, the diseases named above have a larger interest to the physician proper. As a matter of fact the *post-mortem* room shows few cases with the anatomical diagnosis of septicæmia—coming from the surgical wards of hospitals; by far the greater number are from the medical side.

There is we think rather vague conceptions in the minds of many professional men regarding the nature of the three diseases—the term *blood poisoning* perhaps covering any or all of them. No doubt mixed forms frequently occur, yet there is sufficient distinction between them to make it worth while for writers and speakers to be more careful as to their terminology.

Septic intoxication, or as it is sometimes named sapremia, is a non-infective disease, due to the absorption of a chemical poison, manufactured outside the body, or at least not in the living tissues of the body.

This chemical poison is a toxin produced generally, if not indeed always, by the life of pathogenic micro-organisms. It does not reproduce itself in the blood, and is therefore dependent for its symptoms and event upon the amount taken into the circulation. Its presence and effects may be comparable to the injection of a toxic alkaloid.

There is no secondary or metastatic inflammation, and is therefore not a pyæmia, but a septicæmia. Practically, it is useful to know that the amount of putrid serum or blood which would kill an adult by septic intoxication when taken into the circulation, is large, viz., one to two ounces; so that death from this form of blood poisoning will necessarily only occur when large cavities exist and are either undrained or imperfectly drained, as in serious compound fractures, abdominal sections, wounds of joints or pleuræ,

the post-partem uterus, etc. Billroth showed that granulating surfaces do not absorb the putrid poison, so that septic intoxication does not occur after granulation tissue is formed, so long as it remains healthy.

Septic infection on the other hand, differs from intoxication, in being intensely infective. No matter how small a portion of poison is introduced, it goes on reproducing itself in the blood or other tissues, so that this form of blood poisoning must be due to the entrance of specific fungi, and their subsequent multiplication in the body. These organisms produce their particular toxins in the blood, but as they are non-irritant, no metastatic inflammations arise, and this form of blood poisoning is also not a pyæmia, but a septicæmia.

These infective organisms are of different species, and are not necessarily, though often, present in putrid material. Therefore we often have absorption of putrid fluids without septic infection.

Practically, it is important to note that septic infection may occur from the smallest wound, even without evidence of the entrance of a poison. The smaller the wound, with symptoms of blood poisoning, the greater the likelihood of the process being one of septic infection.

Pyæmia, or as it is now called, septico-pyæmia, differs from the two diseases just spoken of, in that in pyæmia we have not only a general disease characterized by rigors, fever, delirium, etc., but also secondary foci of inflammation resulting in metastatic abscesses.

It is now admitted that there are no specific organisms of suppuration. The streptococci and staphylococci are most commonly found associated with the condition of pyæmia, though others may produce it, as the *M. lanceolatus*, *B. coli communis*, gonococcus and others.

THE LATE KENNETH M. FENWICK, M.D.

By the death of Dr. Fenwick, Kingston has lost one of her leading medical lights. Another earnest worker has gone over to the majority. His death was caused by an accident while attending to his duties as surgeon to the General Hospital. A cut was made in his finger while operating upon a child for septic peritonitis. Septicæmia was the result, and death in about a

week. Dr. Roddick, of Montreal, was in attendance during the last few hours, but the end came at 11 p.m. Jan. 21.

Dr. Fenwick was a comparatively young man, only 44 years of age. He was a native of Kingston, son of the Rev. K. N. Fenwick, late of the Congregational College, Montreal. Dr. K. Fenwick was well known as a brilliant surgeon, not only through Canada, but also in the United States. His contributions to serial medical literature were numerous. An article from his pen appeared in our October issue. Like so many other men of brilliant parts, he died all too young, but it must ever be a source of consolation to his numerous friends and admirers that he died with the harness on. We wish to join with the many who offer their condolence to his bereaved wife and family.

A TEST IN PHARMACAL "ETHICS."—Mr. E. A. Schubert, of Fostoria, Ohio, says, the *Western Druggist*, in the course of a paper on pharmacal ethics, relates this account of a practical test of the professional integrity and competency of retail druggists in a given section of his State—a section, by the way, probably the equal in professional intelligence and honesty of the average community in Ohio and other States. "I espoused the thought," remarks Mr. Schubert, "that it would be a capital idea to write a prescription of easy composition and analysis, to see how many druggists would fill it correctly. I will set to work immediately mailing to each of fifty physicians one of the prescriptions, at the same time asking him to write it as a prescription of his own, send some friend with it to his druggist to have it filled, a copy taken and returned to me with the compounded prescription. Out of the fifty requests sent out, I received thirty-seven answers. The prescription called for a three-ounce preparation, but placing them side by side I found twenty-one to be three-ounce preparations, seven were in size four ounces, while the rest ranged in size from five to eight ounces. It was to be an emulsion; nineteen were of that composition, the remainder were far from being true to name. In color, when correctly filled, it would be nearly white; of these twenty-two were true in color, while the remainder ranged from a steel gray to nearly all the

known hues. The principal active ingredient was the acetate of morphine; thirteen only contained this, the remainder principally contained the sulphate. *Out of the entire number returned, eleven were found to be filled correctly.* The remainder were base substitutions, either through ignorance or intention. Of the eleven that were correct, nine came from the hands of Ph. G's, the remaining two were compounded by old and reliable druggists in the city. Of the twenty-six not properly filled we found five Ph. G's., the remainder were country druggists having very little experience in this line and located, with but few exceptions, in towns of 6,000 inhabitants and less." Can it be possible that this sort of recklessness and ignorance characterizes the profession in other intelligent communities?

DIET IN PREGNANCY.—Attention has recently been directed to the well-known fact that a large proportion of the difficulties and discomforts of pregnancy are really due to neglect of ordinary simple dietetic rules, *Ed. Med. Press.* And a distinguished German physician has pointed out that an excessive amount of albumen, or of fluids, in the diet of pregnant women may tend respectively to the excessive development of the foetus or to an unusual amount of amniotic fluid. Useful rules, therefore, are that women in that condition who have contracted pelves, or who have previously suffered from difficult labors, should partake of meat only once a day, and that in small quantities, that green vegetables, salads, potatoes, bread and butter can be taken, but that eggs, peas and beans, which are so rich in albumen, should be avoided; that fluids should only be taken in moderate quantities, and cocoa in preference to tea or coffee; that wine, beer, and spirits should be forbidden, while fruit, raw or cooked, may be indulged in *ad libitum*. The consequence of such a diet, it is stated by those who have adopted it, is to produce a feeling of "well-being," and the sense of fulness and bearing down, and the tendency to constipation, from which many pregnant women suffer, is thereby prevented. This strict diet, it is found, while diminishing the size of the foetus and the amount of amniotic fluid, does not in the slightest degree interfere with the perfect development of the former.

THE DEBATE ON A POSTURE IN AN ÆSTHESIA.—Dr. James MacMunn says, *Br. Med. Jour.* In all cases of asystole, experience has led me to consider the orthodox mode of raising the trunk and legs a mistaken one, as adding embarrassment to the dilated heart by not only increasing thoracic blood pressure, but by allowing the abdominal viscera to roll against the diaphragm. Indeed in cases of impending syncope in other instances, even quiet walking about often relieves more than resting still or lying down does.

The indication, it seems to me, is to lower the head and thorax only, not the head alone, so as to avoid tracheal constriction. This can be done by means of an inclined plane, and by a table I have made myself.

I wonder why so-called "mixed narcosis" is not now used in nervous cases as a means of deadening reflexes—I allude to the hypodermic injection of morphine and atropine or the plethoric glass of brandy or two given before anæsthesia, which were once used?

There is a curious condition of irregularity met with, generally in the dog's heart, which I presume others have noticed likewise, which may have some interest in connection with these experiments.

VENESECTION IN CHLOROFORM POISONING—Fred H. Spooner, M.D., in a letter to *The Lancet* says:—In reading the constantly recurring accounts of death from chloroform, I have never noticed that bleeding the patient has been tried. As a rule, in these reports there is no account of a *post-mortem* examination, but in some of those reported I have noticed that the left ventricle is stated to be empty and the right full.

Now, it strikes me if the engorgement of the right side could be relieved there would be a much greater chance of the patient's recovery. The bleeding might be supplemented by galvanism to stimulate the heart's action. No harm, at any rate, would be done by bleeding, as none of the usual remedies have any beneficial effect, the patient always dying if the pulse ceases before the respiration. I should recommend opening the jugular vein as more directly relieving the heart.

Many years ago, when I was house-surgeon at the Children's Hospital, Shadwell, I noticed that at the *post-mortem* examinations of children dying

from morbus cordis, the right side of the heart was engorged and the left empty, although just before death the child had been pale and not at all cyanotic. I determined to bleed in the next case of impending death in morbus cordis. A few nights later I was called to a child with morbus cordis—I forget the particular form—and found him pale, pulseless, and apparently *in extremis*. I opened the jugular vein, and with difficulty got the blood to flow, but after a very little blood had come the child roused up and seemed much relieved; by the next morning he was quite himself again.

HOW TO TREAT A COUGH:—In an able article under the above heading in the *N. Y. Med. Jour.* Edwin Geer, M. D., Physician-in-Charge of the City Hospital Dispensary, writes:—"The object of this brief paper is not to try to teach my colleagues how to treat a cough, but simply to state how I do it, what good results I get, and to call their attention to those lighter affections of the throat and chest, the principal symptom of which is an annoying cough, for which alone we are often consulted. The patient may fear an approaching pneumonia, or be anxious because of a bad family history, or the cough may cause loss of sleep and detention from business. What shall we do for these coughs? It has been my custom for some time to treat each of the conditions after this general plan: If constipation is present, which is generally the case, I find that small doses of calomel and soda open the bowels freely, and if they do not, I follow them with a saline purgative; then I give the following:

R Antikamnia and codeine tablets, No: xxx.

Sig.: One tablet once every few hours.

"The above tablet contains four grains and three-quarters of antikamnia and a quarter of a grain of sulphate of codeine, and is given for the following reasons: The antikamnia has a marked influence over any febrile action, restores natural activity to the skin, and effectually controls any nervous element which may be in the case. The action of the codeine is equally beneficial, and in some respects enforces the action of its associate. The physiological action of codeine is known to be peculiar, in that it does not arrest secretion in the respiratory or intestinal tract, while it has marked power to control inflammation and irritation. It is not to be compared with morphine, which in-

creases the dryness of the throat, thus often aggravating the condition, while its constipating effect is especially undesirable."

TEST FOR TUBERCLE BACILLI.—Of the various methods employed for staining tubercle bacilli in sputum, Benysek, *Pharm. Ztg.*; *Am. Med. Surg. Bull.*, recommends the following: The sputum to be examined is evenly divided and pressed between two sterilized object glasses, and then exposed to the air, preferably under a bell-jar, to dry. All heat is to be avoided, as the stains then become less distinct. The dry sputum is now moistened with a mixture composed of a concentrated alcoholic solution of fuchsine 4 parts, carbolic acid 5 parts, and water 45 parts, and gently warmed over a spirit-lamp until vapors rise. It is then washed with water and stained with a solution of methylene-blue to which 10 per cent. of sulphuric acid is added. After four to six minutes it is again washed with water and finally dried.

Through this treatment, the tubercle bacilli acquire a dark-red color, while the rest of the specimen is colored light blue. Other bacteria are not stained by this procedure. Very good results are also said to be obtained by staining with an alkaline solution of methylene-blue and malachite-green; but this is a slower process than the above.

OPERATION OF VARICOSE VEINS.—I have treated, *Nice Méd.*, 164 cases of varices without a single failure, by means of hypodermatic injections, eight drops at a dose, into one of the principal varicose confluents, of a solution containing iodine and tannin, one and nine parts respectively; the operation is without anæsthesia, and repeated when necessary, during which the patient stands, a rubber tube having been placed at the root of the thigh. By this operation a hypertrophic phlebitis is brought on with thickening of the venous walls, and consequent resistance to dilatation. After operation the veins are compressed ten centimeters above and below the puncture, the limb wrapped in boric-acid cotton, and the patient kept rigorously on his back in bed. The possibility of embolism is purely theoretical and not borne out by facts.

ERRORS IN DIAGNOSIS.—The difficulty which exists in making an accurate diagnosis of many

injuries to the head has again been shown at the Vincennes Barracks in a case of fracture of the skull which was not recognized, and was thought to be only a slight injury until the man became rapidly worse and died. Such mistakes must, unfortunately, from time to time occur, although happily they are rare, *Brit. Med. Jour.* The rarity of such accidents of diagnosis in London reflects the greatest credit on the care of the hospital house surgeons. It is practically impossible for the public to realize the many difficulties which often lie in the way in these cases. There is, perhaps, no external injury to act as a guide, and too often the patient is in a condition of complete stupor from drink when brought into the hospital; usually he has been found unconscious, and no reliable history of any injury can be obtained. It is, indeed, scarcely to be wondered at if mistakes should sometimes occur under these conditions, although great care may have been taken to avoid them; and more especially so when it is remembered what a very large number of patients are every day brought in.

A NEW METHOD OF LOCAL ANÆSTHESIA.—The subcutaneous and parenchymatous injection of a weak cocaine-morphine solution, known as Schleich's method of local anæsthesia, seems to have found a good deal of favor with some surgeons. *Med. Press.* Indeed one surgeon is so highly convinced of its efficacy that he read a paper upon the subject before a recent meeting of a medical society, and then and there at the meeting, before the members present, had an injection administered into his forearm, submitted to an incision of the skin an inch in length, and lastly, had the incision sutured without manifesting any feeling of pain. He subsequently admitted that the procedures were absolutely painless, and he expressed the opinion that at least fifty per cent. of the operations now done under general anæsthesia, will ultimately be performed by the aid of this method.

TREATMENT OF DIARRHŒA.—For diarrhœa accompanied by pain and colic, and for diarrhœa which follows immediately after meals, the author, Dr. Shaller, in *Alkaloidal Clinic*, has found a combination of codeine and sulpho-carbolate of zinc efficacious. The combination also acts favor-

ably in those cases in which pain follows immediately after eating and is accompanied by looseness of the bowels. He uses a tablet composed of one grain of sulpho-carbolate of zinc, one and one-fourth of a grain of codeine sulphate, together with a small amount of hyoscyamine and sulphate of strychnine. For children, one of these tablets is dissolved in water, the dose being adapted to the age of the child. The author believes this combination not only prevents decomposition, but diminishes the secretion and checks peristalsis.

PRURITUS OF THE SCROTUM.—Pruritus of the scrotum is a most painful and rebellious affection, and, according to Brocq, constitutes a regular cutaneous neurosis. The itching is sometimes so intolerable that the patient becomes almost delirious. Prof. Procq advises the following treatment:

R—Phenic acid, ʒ v.
Glycerin, ʒ iss.
Alcohol, ʒ j
Water, ʒ x. — M

Mix one part of this solution with four of hot water, and steep it in a compress folded eight or ten times, and then apply it to the scrotum, maintaining it in place with an india-rubber suspensory bandage.

As a general treatment he gives antipyrine in small doses (ten grains repeated twice in the afternoon), and valerianate of ammonia at night.

ACCURATE ADMINISTRATION OF LITHIA.—Wm. R. Warner & Co.'s original Lithia Water Tablets (3 and 5 grains) admit of an accurate dosage of Lithia not to be obtained in any natural Lithia Water. These tablets are securely packed so as to maintain their permanency, in consequence of which, when a Lithia Water Tablet is placed in a glass of water it quickly dissolves, effervescing in so lively a manner as to excite the interest of the patient to such a degree, that the unpleasant thought that he is about to take a medicine, does not arise. Now that Lithia has become a valuable remedy for rheumatism, lithemia, gout, gravel, Bright's disease, etc., these tablets are without doubt the most convenient method to administer it, as enough Lithia Water Tablets may be carried in the pocket to make 2½ gallons Lithia Water of definite strength.

FOR CONSTIPATION and the resulting fermentation and abdominal bloating, the following mass is recommended in the *Philadelphia Policlinic*:

- R—Creasote (beech-wood), ℥ lxxii.
 Purified ox-gall, gr. lxxii.
 Pancreatin, gr. xxxvi.
 Ext. nux vomica, gr. xii.
 Phenyl-salicylate, gr. xxxvi.

M. Sig.—Make a mass. Divide into 36 equal parts and dispense in capsules. Dose:—One capsule immediately after each meal.

Four grains of aloin may be added to the mass if not sufficiently laxative.

TREATMENT OF CANCER BY SEROTHERAPY.—Our French correspondent, *Med. Pres.*, reports that at the last meeting of the Paris Academie des Sciences, Drs. Hericourt and Richet presented a paper in which they recorded the results of their investigations into the treatment of cancer by serum. They injected an animal with extract from a sarcomatous tumour, and subsequently used the serum of the animal for injections into the human subject. They state that, short of actual cure, which they do not claim, the greatest benefit followed the injection. Pain was decidedly relieved, the ulceration healed up, and the tumours reduced in size, and they are encouraged to hope eventually for complete cure.

SURGICAL USES OF KEROSENE.—Schirman, *N. Y. Med. Jour.*, reports the satisfactory employment of kerosene as a local application to wounds and ulcers of the trunk and extremities. Ulcers, especially indolent and atonic ulcers, were smeared with commercial kerosene, either pure or diluted (from 35 to 50 per cent.) with alcohol, by means of a small camel's-hair brush or with a piece of gauze soaked in the solution. The appearance and character of the ulcers soon changed for the better, the discharge gradually diminished, and in from two to four weeks the rapidly granulating surface formed a scar without any contraction in the surrounding parts. The advantages claimed for kerosene are rapidity of action, economy of cost, and freedom from complications and toxic effects.

BAILEY & FAIRCHILD Co., of New York, take pleasure in announcing to the Medical Profession the establishment of the Doctor's Story Series, to be issued quarterly at \$2 a year, 50 cents a num-

ber. Each number will consist of a complete work of fiction by medical authors. Only such works as are of established value will be reproduced in this popular form. King's "Stories of a Country Doctor," will be issued January, 1896, to be followed in March by Dr. Phillips' wonderful novel "Miskel," and later by a new novel now in preparation by the same author.

THE Anatomy Law of Wisconsin has been changed, making it obligatory upon public officials to deliver to the secretary of any local or State medical school, any unclaimed body that is to be buried at public expense.

SEPTICÆMIA.—The latest treatment for general septicæmia is hypodermic injections of creosote. The creosote is mixed with equal parts of camphorated oil, and twenty minims of the solution are injected three times a day.

Books and Pamphlets.

CONSUMPTION: ITS NATURE, CAUSE, AND PREVENTION; with an outline of the principles of treatment. By Edward Playter, M.D. Toronto: Wm. Briggs. 1895. pp. 300.

The author, who has for twenty years been editor of *The Canada Health Journal*, has himself made some special investigations relating to the causes of consumption, and during a practice of over a quarter of a century given special attention to the subject. He believes, and quotes high authorities to show that the body factor or condition—the so-called "soil"—arises directly and immediately from the decomposition of retained effete substances in the blood and tissues, the result of imperfect metabolism, from a proportionately small respiratory capacity and want of oxygen; and that this factor, rather than the bacillus, should be regarded as the exciting cause of the disease, often giving virulency to the bacillus, also an essential factor. He believes the disease is in a degree infectious, but that preventive measures should bear rather against the body condition as the more important and preventable cause, and quotes Sir James Clark and others in support of this. The following indicates the heads and sub-heads under which some of the preventive measures are treated: Pure air, soil, dwellings, bed-rooms, respiratory

exercises, sitting and lying out-doors, occupation, preventing "colds," words to parents, marrying, state measures, public instruction, drainage, better inspections, sanitarium, with chapters on climatology and a short one on the climate of northern New York, Vermont, and Canada.

DONT'S FOR CONSUMPTIVES; or the Scientific Management of Pulmonary Tuberculosis :

This is the title of a book which, under the authorship of Dr. Charles Wilson Ingraham, will soon (about Feb. 10th) be issued by the Medical Reporter Publishing Co. of Rochester, N.Y. The complete work of 35 chapters is devoted exclusively to the general management of Pulmonary Invalids, no reference whatever being made to drug treatments. The object of the author is to supply the physician with a practical work, and at the same time, by eliminating technical terms, reduce the text within the easy comprehension of the intelligent patient. The author claims that "a good understanding of his condition is the best remedy for the consumptive." With this book in the hands of his patient the physician will be relieved of a multitude of details which attach to the successful management of such cases. Special attention has been given those chapters pertaining to the destruction of tubercular infection. The book will be printed on 72-pound antique book paper, bound in cloth (imitation morocco), with title in gold leaf. Price, \$1.75.

HAND-BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By Arthur Van Harlingen, Ph.B., M.D., Emeritus Professor of Dermatology in the Philadelphia Polyclinic, etc. Philadelphia: P. Blakiston, Son & Co., 1895.

This is the third edition of Van Harlingen's well-known book. The author has added copious reference and foot notes, and has introduced articles upon some of the rarer affections of the skin. It contains sixty illustrations, several being in colors. Some changes in the text have been rendered necessary by recent additions to our knowledge in the department of bacteriology. Some new methods of treatment and new formulas have been introduced, while others have been omitted as being out of date. The work is sufficiently extensive for the ordinary practitioner or student, embodying, as it does, all that is really necessary for diagnosis and treatment.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. By J. P. Crozier Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: W. B. Saunders, pp. 392, \$1.50.

The author has furnished a reliable guide for mothers regarding the best way of caring for their children in sickness and in health. The work deals with the hygiene of pregnancy, bathing, dressing, and feeding of children of different ages; the proper hours for sleeping; physical and mental exercise, and proper qualities of nurses; and of worms, and the disorders of childhood. It is well written and an excellent guide for mothers and nurses.

A GUIDE TO THE PRACTICAL EXAMINATION OF URINE. By James Tyson, M.D., Prof. of Clinical Medicine in the University of Pennsylvania, etc. Ninth edition, revised and corrected, with a colored plate and wood engravings. Philadelphia: P. Blakiston, Son & Co., 1895.

This work is so well and favorably known that it is only necessary to say that the present edition (ninth) brings it up to date. No large additions have been made, while some less important paragraphs have been omitted, thus keeping the book to its moderate size. It is one of the classics for the practitioner and student.

MANUAL OF LIFE INSURANCE EXAMINATIONS. By James Thorburn, M.D., Ed., Emeritus Professor of Pharmacology, University of Toronto, etc. Toronto, 1895.

This is the second edition of a useful little brochure. Intended for the convenience of medical examiners, it has admirably fulfilled its purpose, and has been largely used by all the leading companies.

"THE NON-HEREDITY OF INEBRIETY," by Leslie E. Keeley, M.D., LL.D., is the title of a timely volume now in the press of S. C. Griggs & Co. The author endeavors to show that inebriety is a disease, and that it, as well as other diseases, is not hereditary. The work is said to differ from others on inebriety in its application of the doctrines of the variation of species and natural selection to cell life, thus showing the causes and nature of disease, its modern scientific treatment, and the philosophy of immunity to disease in general, and inebriety in particular—all in language within the comprehension of the general reader. The international reputation of the author as an original investigator in matters pertaining to inebriety should make this work valuable to scientists, the medical profession, and to all who are, by legislation or otherwise, endeavoring to correct the evils of intemperance.