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THE TREATMENT OF STRANGULATED HERNIA.

There is probably no affection attacking our race that is such a menace to life as strangulated hernia; there is certainly none that becomes so fearfully aggravated by delay. Since the introduction of antiseptics and the advent, of what is termed, modern surgery, we have had a reduction in the death-rate after most operations in almost every department of our art; notwithstanding all this the mortality after operations for strangulated hernia is, perhaps, greatly higher than is generally appreciated. In 940 cases operated upon consecutively in St. Thomas, Guy's and St. Bartholomew's hospitals, the mortality was 43 per cent., the death-rate being nearly equal in all three of these institutions. The mortality at the London Hospital, according to Treves, is at the present time nearly 50 per cent.; one may therefore conclude that the mortality in the four largest London hospitals is not less than 44 per cent. Of 85 cases of herniotomy in the Manchester Royal Infirmary during a period of 12 years, the mortality was 44.7 per cent. Prof. Connor, of Cincinnati, furnishes an analysis of 33 herniotomies, of these 12 recovered and 21 died, a mortality of 63.6 per cent. Rushton Parker, of Liverpool, reports 61 cases of strangulated hernia operated upon with a mortality of 40.9 per cent. Although statistics are to some extent misleading, it will be found that in most large hospitals where all cases of operations are reported and nothing concealed, the mortality after cutting operations for strangulated hernia, still remains high, and has not apparently been diminished by modern treatment.

Mr. Jonathan Hutchinson has lately drawn attention to the unsatisfactory results following operations for strangulated hernia, and severely criticised surgeons who advise operations without a careful use of the taxis in cases where the contents are in a fair condition. He made the astounding statement that in the London Hospital, which had the largest hernia practice in London, or perhaps, anywhere, in 1861, 33 per cent. of operations on strangulated hernia were fatal. At St. George's Hospital at the same time 30 per cent. were fatal. At the London Hospital now 50 per cent. of those operations were fatal. Mr. Hutchinson further states that modern operative treatment could nowhere show as low a mortality as 30 per cent., that the fatality after operations upon hernia should have remained the same, or actually increased during the past 30 years is not in keeping with the advance in other branches of our art, and is a standing reproach to our boasted modern surgery. To what then is this high mortality due? It requires little experience to teach the practical surgeon that in the early performance of kelotomy lies its great safety. The high mortality is to be ascribed to the length of time elapsing between the date of strangulation and the operation undertaken for its relief. It is not so much the operation but the delay that kills. In many cases the early management has been bad, the hernia possibly not made out for one or two days, taxis used unskilfully or persevered in too long. In spite of all that has been taught concerning the importance of early operations, kelotomy seems to be regarded even yet by some practitioners in the light of a last resource, and one that is unsafe to use until the symptoms have persisted for days. Of late years, however, the teaching in our colleges has been in the direction of advising not only early operating but avoidance of too prolonged use of taxis. Its dangers although increasing with the age of the strangulation, have, it is to be feared, been greatly exaggerated. Mr. Hutchinson is of the opinion that the present high mortality in London is due to the surgeons not using the taxis at all.

*Read before the Ont. Med. Association, June, 1894.

NAME.	AGE.	SEX.	VARIETY.	DATE OF OPERATION.	CONTENTS.	TIME STRANGULATED.
1. Mrs. ...	38	F.	F.	March, 1888.	B. & O.	6 days.
2. Mrs. C.	40	F.	F.	April, 1888.	B.	3 days.
3. Mrs. V.	42	F.	F.	Dec., 1890.	B. & O.	2 days.
4. Mrs. N.	40	F.	F.	Nov., 1891.	B.	3 days.
5. Mrs. M.	50	F.	F.	July, 1892.	O.	48 hours.
6. Mrs. O.	65	F.	F.	Dec., 1893.	O. & B.	24 hours.
7. Mrs. R.	44	F.	Ing.	Dec., 1890.	B. & testicle.	24 hours.
8. R. S.	19	M.	Ing.	Feb., 1890.	B. & O.	8 hours.
9. C. H.	52	M.	Ing.	June, 1892.	O.	6 hours.
10. I McM.	42	M.	F.	Feb., 1887.	B.	5 days.
11. S. M.	49	M.	Ing.	May, 1882.	B.	5 hours.
12. R. M.	50	M.	Ing.	Aug., 1893.	B. & O.	20 hours.
13. S. W.	63	M.	Ing.	April, 1893.	B. & O.	3 days.
14. Mrs. S.	65	F.	Ing.	March, 1894.	O.	2 days.
15. Cheighton	76	M.	Ing.	May, 1894.	B. & O.	2 days.
16. Mrs. P.	48	F.	F.	No operation	B.	12 days.
17. Mrs. G.	70	F.	F.	No operation	B.	uncertain.

TIME OF RECOVERY.	REMARKS.	TIME OF RECOVERY.	REMARKS.
1. Death ...	Peritonitis 2nd day	10. 2 weeks ...	
2. 5 weeks ...		11. 2 weeks ...	
3. 5 weeks ...		12. 4½ weeks ...	
4. 5 weeks ...		13. Death ...	8 hours' shock, gut wounded.
5. 3 weeks ...		14. 2 weeks ...	
6. 2 weeks ...		15. Death ...	Third day.
7. 2 weeks ...		16. Death ...	Gangrene (artificial anus made).
8. 5 weeks ...		17. Death ...	1 m'th after nature had formed an artificial anus
9. 5 weeks ...			

Comments.—The table shows an analysis of 17 cases of hernia with 16 operations. Of these 12 recovered (6 males and 6 females), 4 died (2 males and 2 females), as well as No. 17 upon whom no operation had been performed. In the former 2 had been strangulated three days, one (an omental hernia) five days, and in 3 others, two days. Of the remaining 6 cases 2 had been in a condition of strangulation one day, and the remainder from five to twenty hours. Of the fatal cases, one had been strangulated six days, 1, twelve days; 1, two days, and another two and one-half days.

Of the operations, eight were performed on males and eight on females. Of these, eight were for femoral ruptures with two deaths, and six for inguinal, with two deaths. The youngest operated on was 19, and the oldest 76 years. Three were between 30 and 40; seven between 40 and 50; one between 50 and 60; two between 60 and 70.

Of fatal cases, one died on the third day from supposed peritonitis, but there was no autopsy; another in eight hours from shock; one in three

days from exhaustion, apparently, who was 76 years of age, and suffering from hemiplegia at the time of the operation; the last in thirty hours, from exhaustion.

One of the herniotomies was for femoral rupture in the male; one for inguinal in the female. In all the other cases operated upon the inguinal hernias were in males and the femoral in females. In six of the cases the sac contained both bowel and omentum, in five, bowel only; in four, omentum; in one, bowel and endescended testicle, which was removed. In most of the cases where omentum occupied the sac it was adherent, a ligature was applied above the adhesions, and after resection returned to the abdominal cavity. In No. 13 (report), the bowel was wounded accidentally in relieving the stricture, Lembert's sutures were applied and the wound enlarged to cleanse the peritoneal cavity. The operation was prolonged, owing to this unfavorable complication, to one hour and a-quarter. Death took place in eight hours, apparently from the shock. The sack was opened in every case but one. In No. 16 (report) alone was there a certainty of gangrene, and an artificial anus made. No. 10 (report), the omentum looked suspicious; it had been strangulated for five days, but the patient recovered. In No. 1 the bowels looked dark and doubtful, but was returned with a cessation of symptoms; the bowels moved during the night, pain and vomiting ceased, but she died on the third day of what the attending physician thought was peritonitis. In case No. 15 the hernia had been long irreducible with the bowel and mesentery firmly adherent; the stricture was relieved, but no attempt made to sever the adhesions. Death ensued; the age was 76. The operations extended over a period of 12 years from May, 1882 to May, 1894. An attempt at radical cure was made in 75 per cent. of the cases. In 1, 13, 15, the patients being much exhausted, and the necessity of a rapid completion of the operation plain, the sac was left alone and the wound closed. My experience of strangulated hernia leads me to the conclusion that adherent omentum is present very frequently, adherent bowel rarely. The former condition was found in ten cases, the latter in one only. The omentum generally in addition to being adherent, was found matted together, and so altered in structure that it was thought best to remove it

by drawing down the now adherent portion, ligaturing with silk, and after excision return to the peritoneal cavity. In case 15, where the bowel and mesentery were both firmly adherent to the sac, the patient weak, suffering from hemiplegia, and 76 years of age, the operation consisted in relieving the stricture and closing the wound as speedily as possible.

In none of the fatal cases was there an autopsy. In the first, strangulated it was supposed about six days, peritonitis was alleged to be the cause of death. The 2nd., fatal result was due to shock after prolonged operation with slight wound of the bowel. The third died apparently of exhaustion on the third day. The fourth in thirty hours from the same cause. The real cause of death after herniotomy is usually difficult to make out in each case.

In the early part of the present century the introduction of chloroform displaced all other methods of treatment in strangulated hernia. We are told that the question in connection with the operation was whether or not the sac should be opened if taxis failed. It was considered the best practice to try the taxis patiently and for a considerable time, providing that the hernial contents were in a fair condition. If the surgeon suspected gangrene from the symptoms present, the advice was given to operate at once without any manipulation, and always to open the sac. The vital importance of early operations was insisted upon then as now, but the taxis was very much more prolonged and considerable force used. Either reduction by the taxis or Petit's operation, in the event of the former failing, was considered a great improvement on any operation necessitating an opening into the peritoneal cavity. Since the improved method of treating wounds has come into use, it is recommended in most cases to open the sac, thoroughly examine the hernial contents, and, after dealing with them as their condition requires, complete the operation by performing the radical cure. Later still, there has grown upon us a disposition to use the taxis only for a short time and very gently, and a decided preference for early operation. Some surgeons go the length of not using the taxis at all. No doubt this practice is fairly successful in experienced and skilled hands. We must bear in mind, however, when approaching this subject, that we are dealing with cases of

emergency. Probably one half the operations of strangulated hernia are performed by general practitioners, far removed from hospital accommodation, without the necessary assistance; to this may be added inexperience in operating, bad sanitary surroundings, and possibly, imperfect light. In cases suitable for taxis (that is of not too long duration) where the patient is a long distance in the country, and the aid of a fellow-practitioner not at hand, I am disposed to think the physician would be justified in giving chloroform alone, and attempt reduction. As a general rule, however, the patient's consent should be obtained for a cutting operation before an anæsthetic is given, so that should the taxis fail, relief can be given by knife. Whatever line of treatment is adopted, there should be no excuse for delay, for every hour that elapses carries the subject of a strangulated hernia, nearer and nearer to his grave. I am one of those who believe that a patient should not be allowed to vomit a second time from strangulated hernia without attempting something for his relief. In all but two of the 17 cases reported, taxis has been used, and in the majority, persevered in for some time, but in none had any appreciable harm been done to the hernial contents. The bowel is capable of enduring a great deal of manipulation, provided the strangulation has not long been present and the taxis used in the right direction. All matters relating to the operation of herniotomy and its usual complications are so well understood and familiar to all that it would be out of place to refer to them. I make exception to the condition of gangrene and shall report the histories of the two cases from the annexed table where this was present.

Mrs. Geene, aged 70, admitted to hospital March 2nd., 1894, with fæcal abscess resulting from gangrenous femoral hernia. It was ascertained from her family physician that he had been called in about February 12th. At that time the bowels had not acted for two weeks, though she was moving about and doing her own work. From this date to the 18th., she suffered from pain in the abdomen, vomiting and constipation. An enema caused an evacuation, after which diarrhoea set in and lasted for four or five days. On the 22nd of February she complained of a painful swelling in the groin, poultices were used and a discharge took place on the 26th, four days before her ad-

mission to the hospital. Delirious at times with a rapid and feeble pulse. She took nourishment fairly well and most of the discharges took place per anum, and for a time it was hoped she would recover. An eczematous eruption spread around the opening in the groin, and the patient gradually sank and died from exhaustion on the 26th of March. The autopsy showed omentum adherent to the femoral ring, as well as a perforated ileum about six feet from its termination, no spur could be seen and the fistula was the size of a thumb nail. There was a rather free passage towards the cæcum through which much of the discharges had passed.

CASE 16.—Mrs. P., aged 48. Was called on May 28, about 6 o'clock in the evening. The abdomen was greatly swollen, very tense and nothing had passed her rectum for 12 days, There was a swelling in the right groin in the region of the femoral canal. The patient was weak, pulse small and rapid. Two hours later she was admitted to the hospital, and under an anæsthetic, an incision made down to the stricture. Both bowel and omentum were adherent, the former gangrenous, and pus was present among the adhesions. The bowel was incised and an artificial anus made. Death took place in 30 hours.

Treatment of Gangrene.—These are the only two cases of gangrene of the intestine that have come under my notice, and as they afford an illustration of treatment by artificial anus, I have thought it my duty to draw particular attention to them. In looking up the literature of this subject I found the following taken from a valuable contribution by Runsohoff, of Cincinnati. Of 27 cases of hernia coming under his own observation, four were gangrenous, one being of the bowel and one of the omentum. Of 170 kelotomies for strangulation in Hagedorn's clinic, gangrene, real or suspected, was encountered but 25 times.

Of 486 cases collected from different sources, only 68, or about 14% were gangrenous. In the 170 cases of Hagedorn the omentum was dead in one only. This condition is so very rare that some surgeons doubt its existence altogether. In strangulated omental hernia the symptoms are said to be less severe, the pain, vomiting and constipation not so well marked. I have seen, however, as complete constipation in these cases as when the bowel occupied the sac. No doubt a number of

omental hernias are irreducible and adhesions have formed long before the date of strangulation, the compressed portion of omentum receiving its blood supply from the wall of the sac beyond the point of constriction, and thus gangrene is averted. When this rare condition is met with the treatment consists in relieving the constriction, drawing down the mass, ligaturing, cutting off in sound tissue, and returning the stump to the abdomen. I am inclined strongly to the opinion that the cases in which gangrene is found are usually those that are reducible before strangulation, yet even here adhesions form around the seat of constriction, the septic products found in the sac are prevented from entering the abdominal cavity and the development of general peritonitis averted; but where this condition exists it is advisable in operating to use drainage and not close the wound. When gangrenous bowel exists, the question as to the proper course to pursue is a difficult one. Of late years, many recoveries have followed primary excision, with suture of the intestine. The old operation (formation of an artificial anus) is anything but attractive, and the per centage of deaths has been large. Much has been written upon the treatment of gangrenous hernia, and great difference of opinion manifested by surgeons. When the bowel is in what may be termed a doubtful condition it has been recommended by Paulsen to divide the stricture, and, after drawing down and covering the intestine with antiseptic dressings, await developments. I think, however, it is, as a rule, better to carry out the plan recommended by Treves, and replace it within the peritoneal cavity with a drainage tube under antiseptic precautions. When, after this treatment, the bowel gives way, experience has shown that the contents escape through the wound. Many experienced surgeons have met with cases in which the congestion of the bowel has been so extreme that they have doubted whether it were possible for repair to take place, yet its return led to complete recovery. As one meets with such a condition but rarely, it is difficult, or perhaps, impossible to say when the bowel is past the state of resolution. If the intestine, when exposed, be gangrenous, two courses are open to the surgeon, division of the stricture, followed by resection and suture, or formation of an artificial anus. Mr. Kendall Franks, of Dublin, has lately collected to-

gether a table of 222 cases of gangrenous hernia in which resection of the bowel had been performed, the mortality amounting to 48 per cent., while in a rather larger number, where the surgeon had made an artificial anus, the deaths amounted to 80 per cent. (*Med. Rec.*, Nov. 11th, 1893, p. 621). Zudler, of St. Petersburg, gives a paper of 289 cases in which primary resection was performed, and 287 in which an artificial anus was made. The first group showed a mortality of 49.13 per cent., and the second, 74.22 per cent. As to which method is the better, resection and suture of the bowel or the formation of an artificial anus, the decision must depend upon the local condition of the hernia and the ability of the patient to withstand a prolonged operation under an anæsthetic. In some cases of gangrene, more particularly of the femoral variety only a very small knuckle of intestine is involved, and this, after the formation of an artificial anus, closes frequently without any operation whatever, the gut being simply incised and the wound treated as an abscess, when a small faecal fistula results and the contents of the bowel take their natural course with trifling danger of death from inattention. Banks strongly recommends that the stricture be not divided in these cases as the abdominal cavity is opened and exposed to infection from the putrid sac. In one of the cases presented, although no operation was ever attempted, nature performed all this for the patient, the small aperture discharging, and most of the intestinal contents passing her anus, and had the patient been admitted to the hospital earlier, or been younger in years, and had better care, I feel quite confident she would have recovered.

In other cases where there is a considerable section of the bowel in the sac where the strangulation has existed for several days, or been unusually acute, the portion at the line of constriction may be completely dead from direct pressure. The bowel beyond, may be gangrenous throughout or only in part; the centre of the coil, directly opposite the mesenteric attachment, is the portion that usually suffers. If the strangulation has been of long duration adhesions, will be found inside the constriction, rendering the withdrawal of the bowel extremely difficult, after the stricture has been divided from inflammation and subsequent matting together of the hernial cover-

ings. The intestine above becomes filled with a brownish fluid under going fermentation, and the gut enormously distended with gases, causing paralysis to some extent, and rendering the intestine incapable of recovery, even after the stricture has been relieved. The portion of intestine below the constriction is, on the contrary, decidedly pale and contains as a rule, only mucus. When delay has brought the hernia into this most deplorable condition the general symptoms are those of collapse, the muscular system relaxed, the urinary secretions diminished, the skin cold and moist, the heart feeble and the end not far off. When patients reach this state of exhaustion death is most likely to ensue, whatever line of treatment is adopted, for after three or four days of strangulation the chance of recovery is small. In cases so extreme an artificial anus should be made, having the advantages of a short operation and small amount of technical skill necessary for its performance; the sac should be freely opened up, well washed out with an antiseptic solution, the bowel freely incised, left in position and well-drained, after dusting the parts with iodoform. The weight of authority is in favor of not dividing the stricture for fear of infecting the peritoneal cavity. The experience in case 17 shows that this is not necessary. If one is sure about the limits of the gangrene, if the patient young and in a fairly good condition, and free from peritonitis, resection and suture of the bowel may be undertaken with a fair hope of success. When the operation is decided upon, the question arises whether it is to be effected at the site of the hernia, or through a median abdominal incision. In inguinal hernia the wound can be enlarged and will afford ample space but in the femoral variety the crural ring is so small, that it may be necessary to either divide Ponpart's ligament, or incise the abdomen in the median line. The mesentery is divided a short distance from the intestine and in a parallel line, the gut being controlled by the fingers of an assistant. The continuous Lembert suture is probably the best to employ, using fine silk both for the mesentery and bowel. The excision must be made wide of the gangrene so that the stitches shall lie in healthy tissue and great care taken to avoid infection of the peritoneum from the sac. One great objection to this operation is the time

occupied in its performance. The anastomosis button of Murphy may be also used with decided advantage, it is more easily inserted than stitches, requires little technical skill for its application and very much shortens the operation. Dr. Murphy, in *Med. Record*, May 26th, 1894, reports six cases for strangulated hernia, in which the button was used with five recoveries and one death, and six cases for fæcal fistula with no deaths. Dr. Walker, of Detroit, reports two cases with one death after it use. The union may likewise be effected by Senn's bone plates or Abbe's cat-gut rings. Probably the best method has not yet been devised, and as these appliances are not usually at hand when required, the suture will probably hold its place until surgeons are agreed upon one plan of treatment.

In carrying out the operation of resection some surgeons establish an artificial anus and close this after a day or two; this proceeding being applicable to cases where the collapse is severe or the the primary operation contradicted, owing to the limits of the gangrene not being absolutely determined. The advantages of primary incision, as compared to the formation of an artificial anus are great. After resection of the bowel the patient is restored to health in a few weeks, whilst in the latter the condition is most pitiable, a worrying eczema, the constant dread of a secondary operation, and the existing offensive discharges, leave the patient in so sorry a plight that death is almost preferable to existence.

Although, during the past six years, many cases have been successful after primary resection, yet each operation has its proper place. I am disposed to think that most of the successful cases after resection were operated upon rather early, and in comparatively strong patients. In many gangrenous hernias the general condition of the patient is so bad that it would be impossible for such an operation as intestinal excision to be borne. The proper course to be pursued in each individual case must be left to the judgment of the surgeon. Certainly resection of the bowel is an ideal operation and where the necessary assistants are at hand, and speed can be used, I think it should be tried provided the patient is not in a state of collapse.—J. WISHART, M.D., M.R.C.S., Eng., F.R.C.S. Edin. *London, Ont.*

STOMATITIS NEUROTICA CHRONICA.¹

BY A. JACOBI, M.D., OF NEW YORK.

CASE 1.—C., fruit business, 42 years old, married; had one child which was stillborn. His father is alive, 78 years old; his mother 75. There are no other relatives except one sister, who is described as being perfectly normal, and one brother, whom I personally know. He appears fairly well developed physically, but has no whiskers, no hair on the pubes, none in the axilla, and the sexual organs are those of a child of 10 years. Both of these persons have had pemphigus in the mouth all their lives.

Patient appears to be pretty well developed, his complexion, though, is sallow; all his internal organs are in fair condition. His urine has a specific gravity of from 1.018 to 1.025; is always negative. He has always complained of a sensation of fatigue. He tires very easily, drags his limbs; cohabitation, which occurs but once a month, exhausts him; his hands were always weak, and moderate exertion results in tremor. He has trouble in keeping warm, and complains a good deal of præcordial pain, both on pressure and before his meals. This pain, as he expresses himself, was never so bad as when, under the orders of a physician, his diet was restricted. He has a melancholy temperament, and expresses now and then a number of hypochondriacal notions.

Up to his 13th year he suffered severely from urticaria. Since his 13th year this urticaria has disappeared, and has been replaced by pemphigus in the mouth. A few blisters will form quite suddenly, sometimes on the tongue, mostly on the cheeks, frequently in their lower parts, near the alveolar processes. They will burst after a

¹ While this paper was being put in print, Dr. O. Rosenbach published (*Deutsche med. Wochens.*, June 28, 1894) a paper containing a "Contribution to the Vesiculating Affections of the Oral Mucous Membrane." Its conclusions are as follows: "The local pemphigus of the mucous membrane of the mouth is a variety of erythema exudativum multiforme, and ought to be called erythema bullosum. Whatever has been described as urticaria, herpes, etc., of the oral mucous membrane, is mostly this erythema bullosum. It is often complicated with the same eruption on the genital organs. It has a tendency to relapse."

The very variety of the symptoms, and the etiological identity evidenced in the histories of the cases, makes me believe that the name selected by me is more significant and appropriate.

little while; whitish ulcers will remain quite a long time and give rise to a great deal of pain, sometimes resulting in sleeplessness. Half of his lifetime, since his 13th year, he has been troubled with this eruption, which would come on without any apparent cause. He states that half of this period he had been free, not being able to explain why he should have the eruption nor why he should have been free.

About ten years ago, after having been under treatment three years, he had no eruption during the course of three or four years. At that time, and in some later periods, the medicinal treatment consisted of the internal administration of atropia, arsenic, and ergot. He claims that no local treatment ever benefited him except the application of concentrated sulphuric acid. He says it was a notion of his own, and asserts that it heals the sores in a few days.

Once, when the patient was as willing as I had been long ago, I sent him to a neurologist of well-merited fame and sound judgment. What he replied was a follows: "I could not make out the cause of the ulcers in C.'s mouth. If it is not a state due to chronic indigestion, and yielding to it, there are two possibilities to consider—one, that he is an epileptic; that the sores are due to attacks in which he bites his cheeks and lips, and of which he is wholly unconscious; secondly, that a morbid tendency leads him to use various acids, etc., in his mouth (and this he admitted he did), which keep up the ulceration or reproduce it. He seemed to me a queer hypochondriacal person, and gave me such an indefinite history that I suspected some mental taint."

CASE II.—Mrs. W., 32 years old, the oldest of five children in the family. Her father has a very irritable, choleric temperament; her mother is placid, a woman of character and intellect. Her oldest brother has always had a systolic heart murmur, without any hypertrophy, the cause of which can be referred only to an insufficient contraction of the heart muscle. He is now a man of 28. He has for the last six years had peculiar attacks (epileptic?), the principal symptoms of which are slight contraction of the sterno-cleido-mastoid, which turns his head to the right side; scintillation and semi-unconscious-

ness, which is sometimes slight complicated with delirium, temporary forgetfulness, and limitation of his field of vision on both sides. These attacks will sometimes come on every month, sometimes not in six months. They are frequently the result of sudden turning of his head in one direction, and upward.

Another brother had meningitis when three years old, with all the symptoms of a tubercular meningitis. The disease did not prove fatal, but from that time on the boy had a feeble intellect, amounting to stupidity; was a bad scholar at school; had an irritable, violent temper, amounting to moral insanity when quite young; became more violent when he grew up, and had finally to be confined in an asylum for the insane, where he has been these many years.

A sister of the patient has suffered from *petit mal* since childhood, and has feeble intellect, still she is married. A younger sister died when five years old, of convulsions during pneumonia.

Patient was always neurotic; dysmenorrhœa has accompanied her through life; she has been married six years, and has been pregnant four times. The first pregnancy resulted in abortion, the second in the birth of a boy who is four years old and suffers from dyspepsia and constipation. He is a very neurotic boy, cowardly, melancholic, and talks much of his health. The third and fourth pregnancies terminated in abortion.

The patient wore convex glasses, No. 12, twenty years ago; wears No. 6 at the present time. She suffers much from headaches, which do not appear to depend on the condition of her sight. Cephalalgia will come on mostly about the time of menstruation, which is irregular, sometimes scanty, sometimes copious, mostly behind time. Headache will also be produced by reading, thinking, and when the stomach is empty, also under the influence of anxiety or emotions in general. During her headaches she is pale; now and then, however, her forehead will be flushed. Her tendency to constipation will sometimes be interrupted by diarrhœa. Nausea is a frequent symptom; it is often complicated by vertigo. Her kidneys are normal, the urine now and then quite pale and of very low specific gravity.

Other neurotic symptoms are, frequent thirst, also nausea when she stoops and when at work over drawers. In such cases vomiting has been

observed which lasted a whole day. Music will confuse her. In the stores she will sometimes forget what she wished to purchase. Occasionally she complains of neuralgic sensations all over the face in every direction. She sees sparks. Whatever she does she complains she does mechanically. She has "to think terribly much."

Whenever she has such attacks of nausea, of vertigo, and during dysmenorrhœa, she has a sudden eruption of vesicles in her mouth of a size from a lentil to a pea, preceded by local redness. They burst very soon and leave behind them a sore surface of grayish-white color, which feels a little harder than the normal neighborhood, the hardness evidently depending on a fibrinous exudation into the surface. It takes many weeks before these sores heal. Fortunately they are never numerous. In a number of instances only one would appear. She has had these attacks very frequently since her thirteenth year. Menstruation did not show itself before the fourteenth. The only times when she has been perfectly free were during pregnancy and during a trans-Atlantic voyage some four years ago and an absence of about six months.

CASE III.—W., stationer, 31 years old; never had eczema or other cutaneous diseases; never a chill; has regular bowels; boasts of general good health, and has a great many local and general complaints. He is a good sleeper, his organs appear to be healthy, his urine has a specific gravity of 1.023 and is negative. He smokes but little, but both cigarettes and pipes. Boasts of not being a nervous man. His mother, however, was "quite nervous," and an only sister died of œdema glottidis at the age of 31 years. He has been addicted to masturbation from early life until a few years ago. For two years has had attacks of palpitation, which last three or four days, during which breathing is more or less difficult. His heart is of normal size, the sounds feeble; there is no murmur, no hypertrophy. He complains of his stomach, which has been bad three or four years; of slow digestion, and of attacks of vomiting some years ago. He eats rather fast, and takes alcoholic beverages from time to time. The gastric pain he complains of is in the median line. He has it mostly when the stomach is empty. The pain leaves him after

eating and returns after an hour or two. His diet does not appear to influence this pain; as he expresses himself, he has pain after everything and is painless after everything.

When he presented himself in March, 1894, he gave the following history: During the last days of 1890 he was sleepless, from no apparent cause. He committed no indiscretion in his diet, but on the 1st of January, 1891, quite suddenly he had what he calls canker sores on his left cheek; blisters sprang up which opened soon and left a white surface, which lasted weeks and gave him much pain. He says they travelled around the mouth on both sides, jumping over distances, and have not left him since with the exception of a few days about Thanksgiving Day in 1893. Until that time he had a large number of such blisters and ulcerations of the size of peas and less, rising from what appeared to be a normal surface, on lips and tongue, besides the cheeks. All at once, about Thanksgiving, 1893, he could again whistle and remained well a whole week. Then blisters would spring up again on the outside of the lips; the angles of the mouth cracked, and blisters appeared in the oral cavity, terminating in superficial excoriations. Since the 1st of December, 1893, when the new eruption sprang up, its character has somewhat changed. Besides the large pemphigus vesicles in his mouth, the outside of the lips has participated in the process. There the vesicles are smaller, and rise from a hyperæmic surface. The cheek will swell up now and then, and headaches are not of uncommon occurrence. On April 2nd, he complained of a severe headache which had continued a week, and necessitated, and was eased by, prolonged sleep. This headache improved greatly since a few days previous to his call a frontal herpes showed itself. During that time his bowels and appetite had improved, but a symptom which had not been present before and staggered him much, was a very copious perspiration around his anus. On the 17th of May he reported this had disappeared; there was some pain on the right forehead; there was no pemphigus in his mouth, but a few pemphigus eruptions had appeared on the outside of his lips, which had lasted three weeks. He again makes the statement that he has not been free for a year, with the exception of that one intermission in November, 1893,

Pemphigus has amongst its causes heredity and certain affections of the nervous system. Kaposi¹ reports the case of a man of 22 years who suffered from pemphigus since his childhood. His sister, his mother, her brother, and half of the children of the latter were similarly affected.

In anomalies of the sexual organs, in pregnancy (Hebra, Bulkley), after confinement (Köbner), it has been observed; in lepra (Boeck, Nielen) it appears either as prodromes and may last for years, or it originates—both traumatically and spontaneously—on anæsthetic parts of the surface. The spinal cord has been found to be altered in chronic pemphigus; it is met with in chronic myelitis and in neuritis. But in all of these cases pemphigus was not found on the mucous membrane, as in those related by me, and the following:

Kopp² describes a case of what he calls trophoneurosis hysterica. It was that of a woman with a neurotic history and hysterical attacks. Amongst other eruptions she had herpes on the lower lip over the right mental nerve, and after that a small vesicle over the middle of the upper lip. This was followed by a large vesicle on the left side of the lower lip and a stomatitis with frequent hysterical attacks. Both vesicles and stomatitis disappeared in five days. Later on there was marked pain in the gums and on the mucous membrane of the mouth, followed by herpetic vesicles on the lower lip and a marked stomatitis, with fetid breath and frequent hysterical attacks. A week later there came another crop of herpetic vesicles on the lower lip, and the same condition would repeat itself at longer or shorter intervals. During all these attacks the temperature was normal. Alongside the vesicles there went a desquamating catarrh of the mucous membrane of the mouth, which recurred frequently and suddenly. Some months afterward, with a recurrence of the hysterical attacks and other skin affections, there was again herpes on the lips as before, and a marked stomatitis.

T. S. Flatau publishes,³ under the head of chronic recurrent herpes of the oral cavity, the case of a merchant, 38 years old, who was well

¹ A. Eulenburg: Real. Encycl., 2nd ed., vol. xx. p. 291.

² Trophoneurosen der Haut. Inaug. Diss., Würzburg, 1891.

Deutsche med. Wochenschr., 1891.

until his eighteenth year. Then he had typhoid fever and became addicted to alcohol; it is thus that the neurotic element may be surmised to have come into the case. Some months after his convalescence from typhoid fever he had an herpetic eruption on the lower lip, which soon healed. Since that time he frequently had similar eruptions on the mucous membrane of the lips, on the gums, near the floor and roof of the mouth, occasionally also on the tongue, mostly along the free margin posteriorly. These crops would last from eight to twenty-eight days. The longest time that he was ever free was one year, being then also relieved of the general irritability of his nervous system. Then the eruptions reappeared, and since that time the intervals between them have continually grown shorter. It was also observed that when his nose was clear there was no eruption, and when the latter appeared the nose was obstructed. He never had neuralgic pains, but salivation frequently. Patient shows marked mental depression, which he explains by the fact of his suffering from his trouble through so long a period and his impossibility to master it by treatment. There was no syphilis, no tuberculosis, no malaria. The simultaneous appearance of nasal symptoms might suggest a causal inflammation of the latter, but it is quite as probable that the mucous membrane of the mouth and of the nose was affected at the same time. But there is no means of arriving at a correct diagnosis of the original condition. The assumption of a peripheral or central affection of the trigeminus is hypothetical.

B. Mandelstamm¹ observed four cases of pemphigus of the mucous membrane of the mouth within ten years. In one of them the eruption was also seen part of the time on the skin. In all of them the treatment was unavailing. There was no systemic disturbance, but there was fetid breath and painful deglutition. Eruptions were found on the mucous membrane of the tongue, cheek, lips and throat. The sores were of a size from a lentil to a cent. They were grayish-white or white. The patches had sharply defined borders. Some were thick, like a membrane, and could not be removed without leaving a bleeding surface. The eruptions, when on the tongue, were usually found on the free border of the

¹ Berl. klin. Wochenschr., 1891.

inferior surface. Now and then they would appear on the epiglottis. Around the excoriations or membranes there was usually slight œdema, and salivation was not uncommon. Microscopic and bacteriological examinations were all negative.

The author has scanned the literature quite carefully, and comes to the conclusion that such cases must be very rare. A little more frequent are detachments of epithelium which remain membrane-like on the surface, and may resemble to a certain extent diphtheritic or croupous membranes.

With the exception of a few cases to be mentioned hereafter, the above cases of chronic pemphigus of the mouth appear to be all that have been observed. A few instances of pemphigus of the skin I now propose to mention briefly, and to accompany them with a very few remarks which are meant to elucidate the peculiar etiology of the affection.

Kirchner's case¹ was that of a man of 54 years, who was reported to have had a primary specific affection without, however, exhibiting secondary symptoms. For the past seven years he was frequently taken with pemphigus eruptions on arms, legs, face and neck, accompanied with general systemic disturbance and sweating. Sudden exposures to cool air after perspiration were presumed to occasion the attacks. At the Ninth Congress² of Internal Medicine a few cases of pemphigus were the subjects of discussion. Mosler claimed it as a vasomotor, Schwimmer as a tropho-neurotic affection; as to its neurotic character there appeared to be no doubt. As the suspicion of its being of an infectious nature easily suggests itself, microbes were carefully looked for by Mosler, but not found. Nor was Landgraf more successful in this respect, in a case of chronic pemphigus of the conjunctivæ and the mucous membranes of the nose, fauces, and oral cavity.³ A similar case was reported by Boer⁴ and Chiari;⁵ it was observed in a coachman of sixty-three years, who developed pemphigus on the mucous membrane of the larynx. Tuberculosis was suspected,

but the diagnosis was dropped when subsequently the same eruption showed itself on the throat and mouth. No attempt is made in the publication to diagnosticate the cause.

Mosler's case is a woman of thirty, of pemphigus of the skin of the trunk and extremities, was decidedly of a neurotic character, in a neurotic family. The patient was always of delicate health, and had repeated attacks of epistaxis, fainting and epilepsy from her twelfth to her fifteenth year; afterward she suffered from chlorosis, dysmenorrhœa, hæmoptysis, and hæmatemesis.

Benedict observed pemphigus both after peripheral nerve lesions and central disturbances. So have Charcot, Leyden, and Eulenburg. Hebra quotes Dickson and Gilibert, who claim emotional excitement as among the causes of pemphigus, and admits the existence of a "pemphigus hystericus" which appears and disappears in combination with a series of hysterical symptoms. A unilateral case of the kind is reported by Pick (*Wiener Med. Presse*, 1880).

The majority of the neuroses of the integuments, which result either in a simple hyperæmia and œdematous tumefaction or in exudation reaching up to and into the epidermis, have been described as either urticaria or herpes. They are found on the skin almost exclusively. In severe generalized urticaria of the surface I have, however, repeatedly met with an œdematous swelling of the mucous membrane of the mouth; once I observed an acute laryngeal catarrh with croupous cough and dyspnœa, and once a very intense rectal tenesmus. Herpes febrilis I have seen quite often, when severe on the lip or chin, to spread over tongue and cheeks, exhibiting the same character in all localities, and following the course of a peripheral branch of the trifacial nerve. As a rule, however, both urticaria and herpes are limited to the surface. Hæmorrhages into the skin I have now and then found in exquisitely hysterical women. Pemphigus, as the literature of the subject proves, is but rare in that connection. Whenever found, it is on the skin almost exclusively, not on the mucous membrane. With the exception of the few cases given in detail, there are amongst the instances quoted above only those of Landgraf, Boer, and Chiari, in which pemphigus was limited to the mucous membrane of the oral cavity.

¹ Archiv f. Dermatol. u. Syph., Wien, 1892.

² Verhandl., Wiesbaden, 1890, p. 252.

³ Berl. klin. Wochenschr., 1891.

⁴ Archiv f. Dermatol. u. Syph., 1890.

⁵ Wiener klin. Wochenschr., 1893.

Herpes is by no means rare; indeed, *acute herpes* ("zoster") is a frequent neurosis. Its form, however, is not always the same. In some eruptions of zoster the liquid exudation does not suffice for the formation of vesicles; in others the vesicles are very large, like those of pemphigus. These two varieties of dermatitis will sometimes resemble each other in many points. Mosler's case of cutaneous pemphigus began with small vesicles; within four or six hours they were of the size of pigeon's eggs. In one of my cases the pemphigus eruption was surrounded with a hyperæmic area, and that of Kopp's is of a similar nature. These instances prove the at least occasional presence of equal etiological and pathological conditions. Still, the great scarcity of pemphigus of the mucous membrane of the mouth appeared to be a sufficient reason both to describe my cases and to range them under a special heading. The neurotic character of my cases appeared to be self-evident. In two there is a positive family taint; in one the taint is but individual, but the neurosis finds its cause, amongst others, in masturbation, and exhibits a series of nerve anomalies. Even gastric symptoms, when they occurred in my cases, were easily recognized as neurotic. Other symptoms of the same nature were headaches, constipation, diarrhœa, nausea, local perspiration, and general neurasthenia. The temperature of the body was always normal. Contrary to what we see in herpes of the surface, which heals readily unless maltreated, pemphigus of the mouth is of long standing, and heals but slowly, and gives rise to a great deal of protracted pain and discomfort.

The marked family disposition which is evident in the history of two cases, reminds me strongly of what Carl Blumer has described under the heading of "hereditary disposition to vesiculation" (Prague, 1892). Valentine employed for the same affection the name of hereditary dermatitis bullosa; Köbner called it epidermolysis bullosa hereditaria; and Klebs, dysplasia vasorum. He found the blood vessels in a condition resembling that of hæmophilia; down to the capillaries they consisted pre-eminently of cells of embryonal structure, predisposing to hæmorrhages and exudation. Some of the cases described by Blumer and others (Goldscheider, Valentin, Ferd, Hebra, and Köbner) were complicated with urticaria, swelling

of the lymphatic vessels and lymph-bodies, tumefaction and redness of skin surrounding the vesicles, general malaise when eruptions were copious, hæmorrhages into the vesicles, suppuration and purpura.

Selected Articles.

IS THE "GERM THEORY" A FALLACY? VIEWS OF A SURGICAL INFIDEL.

The *Buffalo Medical and Surgical Journal* for December contains an article by Mr. Lawson Tait, which was read before the Birmingham and Midland Branch of British Medical Association, October 11th, 1894, entitled "A Criticism of the Germ Theory of Disease based on the Baconian Method." At the outset, Mr. Tait says, he wants to remind those persons who now sneer at his views as those of a mere practitioner, that for twelve years he was a hard-working and enthusiastic microscopist, and that during that time he discovered one of the most selective methods of coloring tissue, and was the first man to show that fresh tissue of the greatest delicacy could be cut less than a thousandth part of an inch in thickness. He wishes to recall the fact that he unravelled the minute anatomy of the umbilical cord so completely that not a single fact has been added to or taken from his description during the eighteen years which have elapsed since its publication.

Mr. Tait says that when he entered college the cellular pathology was sweeping all before it, and everybody was mad after a new cell; special courses and special teachers were told off for cellular instruction, and a cellular pathology grew up which was to explain everything. Two parties existed, and of course fought bitterly, and the only real and permanent effect was that the unhappy students had to meet two sets of examiners, and to know two sets of answers to the same questions.

With the improvement in the method of making sections, curious little bright spots in quivering movement were seen between the cells, and were called "vibrating molecules." A molecular pathology grew up, but died with its one exponent. Finally the microscopists have resolved these vibrating molecules into a vast array of little beasts, and promulgated a "germ theory" by which everything is explained and under which everything is squeezed. It is no theory at all, but simply an amusing hypothesis, consisting of a series of interesting facts, misconstrued alike in importance and direction, and quite incapable of co-ordination or practical application.

Mr. Tait says the fact that the origin of certain diseases is due to a poison, has always been recog-

nized, but the suggestion of the immediate machinery has curiously varied.

The ancient Greeks and Hebrews believed that disease or a plague was a blow from an offended deity, and the Christian's favorite doctrine was, that it was a visitation from the devil; for both, the modern scientist has substituted the microbe, which is no logical advance over the belief of either. The ancient Jews were very practical, business-like and honest people, and could have written sanitary articles in medical journals much better than some of their descendants of the present day do now. They knew the facts of sepsis, and had most elaborate schemes of antiseptics, whose stringency of detail were not much more ridiculous or probably much less satisfactory than many of those which have emanated from Lister himself.

Mr. Tait says, the "germ theory" originated from a supposed analogy between the processes of decomposition and disease. The law of decomposition has long been known; given a solution of organic compounds maintained at a certain temperature to which air has access, it will decompose. Pasteur added the fact that the process was always in the presence of, or on account of, numerous minute organisms which are capable of propagation. Pasteur did not invent a hypothesis, he did not formulate a theory, he did not establish a law, he simply added facts. The microbic theory of decomposition is untenable, as is shown by the homely instance of well-made jam. Here he says: "Let me remind you of the essence of inductive reasoning in Bacon's own words—a rule which has never been successfully evaded: 'The form which is sought can be detected only by a process of exclusion, by which we find a phenomenon constantly present, when the effect is present, absent whenever the effect is absent, and varying in degree with the effect. Such a phenomenon would be the form in question, the cause of the given effect or attribute.'" According to this salient definition, is the *causa causans* of decomposition the microbe? Most certainly not. Therefore we can have no microbic theory of decomposition. But if we proceed on true Baconian lines, we find that not only are the phenomena of decomposition not those of disease, but there is absolutely no analogy between them. Some appearances of analogy there are, but they are easily destroyed by careful examination. Take the huge carcass of an ox, let it lie in the field till the phenomena of decomposition are observed beneath the eyelids. At the same time, the same changes will be found active in the pericardium, though all possible communication by the blood current between two such remote spots has been destroyed. The spores of germs of decomposition are always present in our body, and they commence their victory as soon as death occurs. Throughout the

whole nomenclature of disease there is none which affects the whole mass of the living body at once, and at a blow, as does decomposition.

Mr. Tait says that he has followed the researchers on the bacillus of tubercle with great care, because he had objected to a group of cases of abdominal diseases being designated as tuberculous peritonitis. Opening and draining these cases cures the majority of them, and in the characteristic tubercles in a great many of his own cases, the bacillus tuberculosis has been found, while in others it has not. Many of the former have recovered, while some of the latter have ultimately died of the advance of the disease. Hence he concludes that while the bacillus of tuberculosis may be a product of the disease, it is not its cause.

Mr. Tait says that ten years ago electricity was unfortunately revived as a remedy for diseases, and that this time it was directed to the affections in the female pelvis, and that we were told that inflammatory effusions, purulent inclusions and solid tumors had melted away under the influence of the electrolytic current. His criticism of the proposal at the time was confined to the suggestion that, as inflammatory processes were pretty much the same wherever met with, he should be contented to believe the statement, and follow out the treatment, if he saw it applied successfully to a whitlow or ganglion of the wrist, and he now proposes that the same kind of test be put to the "germ theory" in the field of dermatology. Here the great bulk of the phenomena of disease are under the naked eye, and can be supplemented by simple, harmless, and perfectly justifiable experiments, and it is most disappointing to find that the whole result of previous investigation consists in numerous changes of nomenclature, and a blatant advertisement of nostrums. The skin doctors have ranged themselves into two camps, germists and anti-germists. They have quarrelled with each other like gynecologists, and have settled nothing.

Mr. Tait goes into a long dissertation on typhus fever, which he claims is not due to a germ, but to overcrowding. He states that typhus is practically unknown wherever the population is below one hundred and fifty to the acre, but occurs with certainty when it is over two hundred. He says that typhus arises *de novo* upon appropriate provocation, and is speedily killed by cleanliness and an abundant supply of fresh air, which facts are in his opinion contradictory to the "germ theory."

Mr. Tait says: "It is probably the germ of some very ordinary fungus, sprouting with deadly growth from the pabulum afforded by the crowd—a suggestion made to me by the late Charles Darwin. At any rate, in this case the fulfilment of Bacon's canon is complete. The phenomenon, a population above a certain density is always present

when the effect, typhus fever, is present. It is universally absent when typhus fever is absent; and the effect, typhus, varies in degree with the degree of overcrowding. The phenomenon overcrowding is, therefore, the form in question, 'the cause of the given fact or attribute.' Littlejohn's facts and figures prove the law of the appearance and existence of typhus, the law of its variation, and they have established the fact of its extinction. You may as well establish a germ theory for this awful disease as for a leg of cold mutton."

Mr. Tait then takes up the application of the germ theory to the practice of surgery, and says that Lister, from his laboratory experiments, knew that a single spore admitted into a sterilized flask was quite sufficient to produce decomposition in appropriate contents, and permeated by a false analogy, he concluded that a single germ was equally potent in a surgical wound. Mr. Tait says, that being a very clumsy barber, he has no doubt that he has implanted myriads of germs in fresh wounds inflicted on his face while shaving; that no septic results have followed in his own case or in thousands of his fellow sufferers. He ridicules the technique of antiseptic surgery, and uses as illustrations of its absurdity two articles recently published in America. In one, the author says that he divides the umbilical cord about two and one-half inches from the abdomen, wipes the abdomen and the cord with a bichloride solution, firmly secures it with a sterilized ligature, and touches the cut end of the cord with a bichloride tablet.

"Sterilized gauze, sterilized bandages, and a properly sterilized cradle and nurse," says Mr. Tait, "secures the recovery of the germ-endangered baby, and no doubt a formal operation fee is charged after the danger is all over."

The other writer quoted gives minute directions for sterilizing the hands, instruments, ligatures, and dressings for the operation of lacerated perineum. Mr. Tait states that he has done the operation about fifteen hundred times, and has observed none of the directions nor used any of the measures advised by his American friend, and yet the statistics which have been published prove that his mortality is less than that of his antiseptic rival, as one is less than two hundred and fifty. Mr. Tait says that some may say that neither the division of the umbilical cord, nor the repair of a damaged perineum, are sufficiently serious operations to make any mortality at all. If such be the case, there can be no truth in the alleged germ theory; for the logical deduction of that theory is, that the entrance of the germ or germs into any wound whatever is capable of producing systemic septic evils and death.

Mr. Tait says that he has done a great deal of operative work, and has never used anything but absolute cleanliness; yet his published statistics

have not yet been contravened or beaten in their record. He says he has challenged Sir Joseph Lister over and over again to compare statistics with him, but he has ignored him with a lordly indifference. He says that the details of Listerism change with marvellous rapidity, and before they are six months old are pronounced failures, and are replaced by something new. The last of all these numerous phases is the disuse of chemical destroyers of germs and the abandonment of antiseptic surgery, and the adoption of aseptic surgery, which is nothing but perfect cleanliness, which Mr. Tait has been preaching for years, and, forsooth, this is, then, the newest Listerism.

Mr. Tait says that after his early experience in surgery, it is a wonder he ever stuck to it; that, during his pupilage in Edinburgh, he saw thirty abdominal tumors removed without one single recovery, and, when he left the land of his birth, it was with one fully made resolution—that he would never open an abdomen. In Edinburgh, if he saw the amputation of a thigh in the Old Infirmary on Wednesday, there was a strong probability that the following week he would see the bared bone sticking through the anterior flap. If a breast was removed, an erysipelatous reddening of the flaps would very probably occur on the following day, and would be half way around the chest before the week was out, and the wound gaping, and everything going to the bad. He left Edinburgh, and has been engaged continuously for the past twenty-eight years in making wounds, and he has never seen a case of erysipelas in his own practice. This improvement lies in the separation of patients, plenty of cubic space and fresh air, and is in no wise the result of chemical germicides, which he never uses.

Mr. Tait says that it was Simpson who cried out most loudly for better ventilation and cleanliness, and against the use of dirty hands and sponges, and that he has been dead hardly these five and twenty years, and all his splendid work is as much forgotten as if it had never been done, and the glorious progress which has come out of it is given to a theory, which is not theory at all, but a phantasm, a system which has been proved an inconstancy and a broken reed, a thing which yields at every blast, either to scholastic logic or eclectic experiment.

As a surgeon, Mr. Tait stands pre-eminent, but he is amusing as a scientist, confusing as a logician, and abominable as a writer.

The epitome of his article just given has been laboriously dug from confused verbiage, and enucleated from digressions on electricity, dissertations on Baconian logic, enumerations of his personal success as an operator, and abuse of men who oppose his views.

Mr. Tait recognizes the existence of a poison which produces disease, but refuses to admit that

it is of a microbic nature. He insists upon the importance of cleanliness and upon the avoidance of contaminating wounds with dirt, but fails to say of what the latter consists. He prefers to deal in generalities, to speak of contagion as a condition, not as an entity. If it gratifies him to call by the name of dirt what his more advanced contemporaries have resolved into micro-organisms, it is a weakness of his brain, which should be pardoned on account of the cleverness of his hands. If, in practising cleanliness, Mr. Tait has practised aseptic surgery, so much the better for Mr. Tait; but he did it instinctively, purposelessly, not scientifically; and to have expected others to follow his example, for which he could give no reason, would be as illogical as to expect fruit from a tree which had no roots, or water in a brook which had no source.

The followers of Lister have, in the past, been guilty of many absurdities, and in their ranks are still found theorists who ride their hobbies hard. Many apparently contradictory facts still remain unexplained, and the results of experiments, which seem diametrically opposed, have still not been reconciled, but all this will be remedied in time. When germs can be examined microscopically, can be differentiated by their appearance, can be cultivated in the laboratory, and can have their effect, when introduced into a healthy organism, accurately foretold, the science of bacteriology is not a farce. When a germ fulfills the requirements of Koch; when it is invariably found accompanying a certain disease; when it can be cultivated from the tissues and bred in test tubes; when it can reproduce disease if inoculated into a second animal, and is again found in the inflamed part, it certainly would seem, to a reasonable mind, that it has a direct etiological relation to the disease.

It is, of course, impossible to demonstrate positively the truth of the "germ theory," but such is the case in many other branches of science, and is, therefore, no reflection upon medicine. No one would question for a moment the assumption of the truth of the "Atomic Theory," and yet, without that basis upon which to build, the proud structure which has been erected by the chemists would fall into chaos. It is impossible for the Christian to demonstrate the existence of a Deity, and yet, without the faith inspired by their belief, civilization would totter and barbarism would return.

The magnificent achievements of modern aseptic and antiseptic surgery amply refute his attack. Whether the "germ theory" be a fallacy or not, the faith inspired by its principles results in the application of methods which prevent septic complications, and is of untold benefit to mankind.—*Virginia Med. Monthly.*

MEDICAL TREATMENT OF THE DISEASES OF THE STOMACH.

Mr. President,—In the short time you place at my disposal I shall review the more important remedies available in gastric disorders, the principal symptoms attending them; and a few of the local affections, such as ulcer, hæmorrhage, and cancer. What I have the honor of presenting, is not claimed as new, or "modern," but is offered as what I have been, and am, in the habit of recommending and employing.

Some of the abnormal conditions of the stomach depend on anomalies of distant organs. Hyperæmia and catarrh result from disorders of circulation in the chest and abdomen. Incipient pulmonary tuberculosis, chronic pleurisy, particularly the diaphragmatic form, peri-bronchitis, emphysema, every variety of asthma, diseases of the heart and the great blood-vessels are frequently the causes of the various forms of dyspepsia. It is these causes which require treatment and not to the same extent the gastric disorders. Thus it is that the latter may be remedied by gymnastics of the chest, or by digitalis.

Irrigation through the stomach-tube is indicated, and frequently does good, when there is protracted nausea and inflation, and the taste is sour or bitter. To continue this treatment indefinitely is not indicated, or to rely on its continuation for its moral or psychic effort is injudicious, for a neurotic patient will not be influenced more by ten irrigations than by two. On the other hand, it is true that two or three irrigations will hardly suffice sometimes to clear the cavity of all the food that may have accumulated. Cases of sarcina are particularly obstinate.

Irrigations are certainly contra-indicated in most cases of gastric ulcer, of acute gastritis, except the cases produced by poison or fermenting food, in painful and in ulcerative pharyngitis, and they ought to be made with great caution when the sound has to pass a dilated heart, a large aneurism, or an elevated or strictured œsophagus. The tube should have a double opening at its lower end, it should be soft, and must not be carried far beyond the cardia. By measuring the distance from the chin to neck and along the vertebral columns down to the ninth dorsal vertebra the necessary length can be found. The tube may be moistened with warm water—vaseline and glycerine are nauseating to many—and is carried down to the œsophagus; then the patient is told to make the movement of deglutition, and repeat it when the tube reaches the level of the larynx. He must breathe regularly and hold his basin with both his own hands; 500 gm. of water, or warm alkaline water are then run in, once or several times; it is not the whole amount that will come up again, for

a small part will be absorbed in the stomach, and more is apt to escape into the intestines. A slight up and down movement before withdrawal prevents the mucous membrane from being caught and torn.

Irrigations are indicated when large masses of mucus cover the interior of the stomach and separate the ingesta both from the absorbent and the secreting epithelium. In these cases chloride of sodium and carbonates act as solvents. In bad cases of chronic gastritis solutions of nitrate of silver (1 to 2,000) will do good after warm water with carbonate of sodium (not the chloride) had preceded them; also warm water in which subnitrate of bismuth has been suspended.

Papayotin (Papain), the powder, or a five per cent. solution, digests meat. In an atonic and non-secreting stomach it is therefore an excellent aid to digestion. Such specimens of disintegrated meat and cheese I demonstrated to the State Society when ten years ago I detailed the effect of the remedy on croup membranes. My remarks on that occasion have been utilized contrary to my protest by a mercantile firm who advertise a preparation which they call papoid. How much papayotin is contained therein the gods and the firm's chemists may know. I do not, but I do know that the use of my name in the circulars is an unmitigated fraud.

Pancreatin, the ferment of the pancreas, transforms starch into dextrin [sugar, splits fat, when emulsionized in the pancreatic juice, into glycerine and acids, and peptonizes albuminoids in alkaline solution. In acids it has no such effect, indeed it is decomposed. Therefore I never comprehended what good it could do when introduced into the acid stomach.

Pepsin in water and hydrochloric acid dissolves albuminates. When the stomach furnishes none, or an insufficient quantity, for instance in anæmia, chronic tuberculosis, or scrofula, in old age, in convalescence, its medicinal administration is beneficial, inasmuch as it facilitates the digestion of nitrogenous foods. But it is inert unless accompanied with dilute hydrochloric acid. Solutions in glycerine will keep in alcohol but a short time; therefore wines of pepsin which have been preserved a long time are liable to have but little efficacy.

Bismuth. The subcarbonate, subnitrate, salicylate or subgallate are less appropriate in gastric catarrh than they are in other forms of subacute or chronic gastritis, and mainly in ulcer of the stomach. It is a gentle and antifermentative protection to the mucous membranes and its nerve branches. The gastric neuralgia of the anæmic, the hysteric, and the pregnant are favorably influenced by it. In the same way, besides binding hydrogen sulphide, which is a potent cause of per-

istalsis, it protects ulceration of the intestines, prevents their reflex effect and relieves diarrhœa.

The merits of *nitrate of silver* have become dubious in regard to most of the claims advanced for it. It was expected to heal ulcerations and to relieve gastric pain. The main objection to its use was the fact that there is always so much sodium chloride in the stomach; that is true, but when nitrate of silver is to be used, the amount of salt in the stomach need not be larger than the physiological condition of the gastric surface requires. Therefore whoever is to take nitrate of silver must not before have taken salt with his food, and ought to have a fairly empty stomach. In that condition the mucous membrane of the stomach is as amenable to the action of the nitrate as that of the pharynx or nose. It is desirable to have a similar method of administration, or rather application, in all of these cases. Pills will certainly not be so reliable as a solution, and the dilution ought to be large enough to render the distribution of the solution over a large extent of the stomach probable. An adult may take from one-half to one grain in four ounces a day, a tablespoonful every two, or two tablespoonfuls every four hours. The smallness of the doses is no objection. The greatest dilutions, 1 to 2,000 to 5,000, are known to find their way most readily into and between the epithelia. To influence a large part or the whole extent of the stomach interior, a few grains of nitrate of silver in a pint of water may be employed for irrigation.

Charcoal, I am told, is a very disappointing drug. I do not share that opinion. It is expected to bind gas, and so it does; but this property is nearly lost when it is wet. Besides, the charcoal mostly in use with us is vegetable charcoal, while the animal preparation is known to absorb thirty times as much as the former. I never prescribe anything but carbo-animalis. To have its full effect it ought to reach the stomach in its dry state if possible. That can in part be accomplished by giving the drug in wafers or in capsules.

Amara (bitters) are stimulants appropriate for atonic condition of the stomach, both primary and secondary, mostly in anæmia, chlorosis, and exhaustion by sexual excesses. The roots of gentian and calumba, the wood of quassia and of dandelion and Irish moss belong here. Their effect is but mild, their action by reflex on the secretion of the saliva is known but not marked, that on the secretion of gastric juice is doubtful. Thus it is that they are often administered in tinctures which contain ethereal oils and alcohol, both of which are more active. The latter do not agree with acute gastric catarrh and ulceration. One of the best known, for good and evil, is cundurango. In America it began its career in 1871, in 1874 in Germany. I well remember the stir it made in the newspapers of the day. It was imported by a

downtown firm from Ecuador and cured every case of cancer of the stomach. To return the compliment, the same firm exported large invoices of Scott's cancer remedy to cure the cancers of the stomachs of the people of Ecuador. Such is fraternity and solidarity. After a while, when the excitement was over, cundurango was found to be an excellent amarum. A decoction of 15 in 300, made after a maceration of twelve hours, so as to leave 150, acts quite favorably. So does the extract of cundurango, one or two grains of which may be administered five or ten times a day.

In the same direction are other active bitters and the aromatics, the mints, cardamon, caraway, cascarrilla, mace, pimento, ginger, cinchona, pepper.

Most of us will prefer one, or very few, or none of the substances mentioned. When given in the tinctures or in extracts, they may be combined with adjuvants and corrigents, in liquid or pill form, with quinia, iron, etc. Some of us are still fond of orexin, the indispensable cure-all, the effect of which has always appeared doubtful to me. The best of all the bitters is nux vomica; its tincture, fluid extract, solid extract, and its alkaloid permit of many ways of administration and combination, with good effect.

Rhubarb in small doses has no cathartic effect, but through its gallic acid is rather constipating. In doses of from 2 cgr. to 2 degr. several times a day it acts favorably in chronic gastric catarrh and nausea and vomiting depending thereon. In small doses it improves the appetite, particularly in scrofulous and rickety children, when feeble digestion or dyspepsia follows an attack of diarrhœa. The aqueous tincture of rhubarb which has been received from the German Pharmacopœia into our "National Formulary" is a good preparation. Adults take one-half to one teaspoonful after meals. Our aromatic tincture of rhubarb is a good preparation when the stimulating effect of alcohol is required.

Motory incompetency may be the result of gradual decrease of muscular strength in anæmia, slow convalescence, etc., or depend on a congenital, either general or circumscribed, insufficiency, but is most the outcome of a protracted catarrh and dilatation. It is quite frequently combined with insufficient secretion of gastric juice. These are the cases in which orexin has been recommended. Amara and diluted alcohol, spices, aromatics, internal douching, external douching, both cold and hot, massage, electricity, both externally and internally, appear indicated. Pepsin and hydrochloric acid are required when the secretion is more defective than the contractility.

Lack of hydrochloric acid results from defective innervation, in gnæmia and convalescence, or from local causes; atrophy of the glands, cicatrices, or tumor. The secretion of pepsin is defective at the same time. Both have to be supplied in the shape of medicine. —(To be continued.)

CONJUNCTIVITIS—ACUTE AND CHRONIC.

This is, perhaps, one of the most obstinate forms of acute or subacute conjunctivitis to deal with, unless the cause is appreciated. It is best in all cases of conjunctivitis to examine the tear passages and ascertain their condition. If there is obstruction, treat the nasal end of the lachrymal duct by sprays or powders, and use mercuric bichloride (1 to 8000) on the conjunctival cul-de-sac. If this does not remedy the lachrymal obstruction, then open the canaliculus by the Bowman operation, thus giving free drainage. This, with the use of the antigerminicide, will cure the condition. These cases, treated in the ordinary way by the application of astringents to the eyelids, will, as a rule, avail nothing, but speedily respond to the treatment outlined above.

Nasal conjunctivitis, by which we mean inflammation of the mucous membrane of the eyelids, due not to obstruction of the lachrymal duct, but to an interference in the free nasal breathing and ventilation of the head through the nose, is due in most instances to a hypertropic rhinitis, and, perhaps, to enlarged turbinated bodies. The symptoms of these cases persist even when the most approved methods of treatment have been used for simple conjunctivitis, and the redness of the eyelids and the blepharitis only gives way when the nasal obstruction and rhinitis is under control. We could cite many cases where this cause has been overlooked, and which speedily recovered on the treatment of the nose and throat.

Traumatic conjunctivitis is frequently met with as the result of the injury of the mucous membrane by the entrance of foreign substance, and which speedily gives way on the removal of the exciting cause. After exposure to the sun's rays, on the impact of air in sailing or rapid driving, we frequently observe a form of conjunctivitis, which we justly call traumatic. We have all seen, doubtless, the conjunctiva sun-burnt and air-inflamed. For these forms we use the application of cold compresses ten minutes at a time, four times a day, together with protecting colored glasses and moderate out door exercise: in fact, almost all the simple forms of conjunctivitis do much better in the air than when housed. Occasionally, in traumatic conjunctivitis, with moderate secretion, an eye lotion of alum and boric acid, three grains each to the ounce of water, will be found efficient and soothing. Electric-light conjunctivitis comes under this class, and is now quite often seen, especially in those engaged in work where the arc light is used. Protection of the eyes by colored glasses and abstinence from the usual employment for a few days will usually rectify this difficulty.

In the treatment of all the forms of simple, acute, or subacute conjunctivitis, we are in the habit of prescribing applications to be made to the closed eyelids of cold water, by means of cloths or pieces of old linen. These, dipped in cold water, or better still, placed on a piece of ice and then transferred to the eyelids, make a very soothing and beneficial form of treatment. Then a solution of alum and boracic acid, as mentioned above, is given the patient to use at home, two drops in each eye, twice daily.

Purulent conjunctivitis, is the most serious of all the inflammations of the membrane we have to deal with, and we know of nothing more sad than the picture so frequently seen of the helpless infant, but a few days old, presented for our care, with both corneæ infiltrated, the eyelids bathed with pus, and the eyes hopelessly destroyed, when, if the appropriate remedies had been used, the child would have been saved a lifetime of misery. Another form seen in the adult is the purulent conjunctivitis caused by the germ of gonorrhœa—an exceedingly disastrous inflammation, and one that will destroy the eye within forty-eight hours unless treatment is very promptly inaugurated. The eyelids are very much swollen, and the skin red and glossy, and the secretion copious. In either the infant or the adult, if only one eye is affected, the non-affected should be protected and shielded from inoculation by means of "Buller's shield," which is simply a watch crystal held in position by means of adhesive plaster. Thorough cleanliness is godliness in this instance, and should be rigorously carried out; in fact, this class of patients should only be treated as in-door patients, and then isolated. All things used in removing the secretion from the eyelids should be promptly incinerated, and thus all further danger of contagion removed. The eyes should be cleaned as often as the secretion accumulates—every half hour, if necessary. The eyelids should also be opened and the secretion removed by the use of a small syringe, injecting through the cul-de-sac and over the eyeball a solution of mercuric bichloride (1 to 8000), in order to cleanse and, at the same time, act as an antiseptic. If the secretion is considerable and there is not much bleeding from the palpebral conjunctiva, applications should be made by the medical attendant to the everted eyelids of a solution of silver nitrate, ten grains to the ounce of water. This should be in many cases applied twice daily, and continued until the secretion begins to diminish, when the strength of the solution may be reduced to five grains and the applications made once daily. It is extremely important that applications of iced cloths should be kept up in the adult continuously for the first few days and in the infant as frequently as tolerated. The best way is to take a large piece of ice, wrapped in flannel, and upon this place small

squares of old linen, and when they are thoroughly cold transfer them to the closed and inflamed eyelids. When the cold becomes too intense, the applications may be interrupted for a time, or when the cornea shows signs of lack of nutrition, they may be altogether omitted, and even warm compresses applied; this, however, is rare. After cleaning and making the silver-nitrate applications, it is best to fill the conjunctival cul-de-sac with vaseline, as it has been found to lessen the secretion and probably render the propagation of the germs more difficult.—Moore, in *Post Graduate*.

TREATMENT OF SPRAINED ANKLE BY ADHESIVE STRAPPINGS.

On May 16, 1893, a gentleman tourist from New York City called at my office for treatment of a severe sprain of the ankle, which he stated occurred in getting off a moving train three days previously. For the relief of the severe pain he had employed an anodyne liniment. On examination I found the right ankle greatly swollen, very sore and sensitive when the least movement was made, but although the symptoms pointed strongly to the presence of a fracture or dislocation, I was able to assure the patient, much to his gratification, that this was not the case. He was very desirous of having something done to enable him to continue his tour, as his time was limited. So forcibly did he urge upon me to fix him up in some way that my wits were put to a strain for some new plan of treatment, that his wishes might be satisfied. I thought of splints, of plaster of Paris, and other materials, of bandaging, laced boots, and crutches, and every method I could call to mind, stating the advantages of each to him for selection. None suited him, as he said all were too cumbersome, and he feared he could not travel with any satisfaction, having his wife with him.

He enquired if there was no other way of relieving him, stating that he would take the responsibility upon himself. I thought for several minutes of something new, when my eyes fell upon a roll of rubber adhesive plaster on my desk. The idea at once suggested itself that the ankle could be completely immobilized by cross strapping with the plaster. I offered my new plan to the patient, and he said "go ahead." I cut my plaster, which was one and one-half inches wide, into strips from twenty to thirty inches in length, as they were required. The first strip, about thirty inches in length, was carried from near the base of the little toe around the foot, then over the instep and around the ankle, making a spiral bandage. The second was started beneath the base of the great toe and carried over the instep,

crossing the first strap, then making the same spiral turn around the ankle up on to the leg. The third was started about half an inch behind the first strip, following its course closely until the turn around the ankle was reached, where it was made to slightly overlap the first. The fourth followed the course of the second, and so on until part of the foot, the ankle, and about six or nine inches of the leg were completely and securely encased with the adhesive plaster.

Over this dressing I then applied a thin bandage, merely to secure the plaster. After he had put on his stocking I told the patient to stand on the foot and try to walk, which he did to his entire satisfaction, without the least strain on the ligaments. He sent his wife out and purchased a slipper (as his shoe would not fit now) and was enabled to go about very comfortably. On the fourth day the swelling had completely subsided, and I applied new strapping, and he continued on his journey. I saw him several times during his short stay here, and he could not have made more satisfactory recovery (and perhaps not so satisfactory) had he been confined to his bed.

CASE II.—I had under treatment at the same time the proprietor of the hotel where this gentleman was stopping, who had sprained his ankle about one week previously. The patient had kept confined to his room with the ordinary dressings, but when I discovered the great advantage of this strapping by adhesive plaster, I removed the old dressing and applied the strips to his ankle also, and allowed him to go about with the same good results.

CASE III.—About three months later I employed this treatment in the case of a young lady, a pupil of the high school, suffering from a sprained ankle. She was able to go to school every day, and in two weeks' time had made a complete recovery.

CASE IV.—This was a Colles' fracture of the right wrist. I applied only a band of rubber adhesive plaster thrice around the wrist, and had the patient carry his arm in a sling, allowing the hand to drop. No other dressings were used. The results were perfect. No splint ever so scientifically constructed could have given better satisfaction.—W. H. Dukeman, in *International Jour. of Surg.*

THE TREATMENT OF ENDOMETRITIS.

Winckel recognizes clinically two forms of endometritis, the hypersecretory and the hæmorrhagic. Among the causes mentioned are bacteriological, (streptococcus, staphylococcus, gonococcus, and coli communis), infectious endometritis from typhus recurrens, croupous pneumonia, typhoid, dysentery, and acute peritonitis, also a nervous form.

For the purposes of examination and application to the uterine cavity, dilatation is necessary; but no longer is it to be accomplished by the old methods of tents or graduated tubes, but with sterile instruments to effect rapid dilatation, followed by the insertion of the finger, then by the sound and applicator.

The simplest method is naturally irrigation, which is best suited to the glandular form.

Following Schultze, daily irrigation with three per cent. sodium solutions, to remove the mucous secretions by means of a simple catheter, followed by a two-and-a-half per cent. carbolic acid solution, and finally a one per cent. lysol solution.

To this list the author adds tincture of iodine two and a half per cent.; sublimate 1 to 5000, chloride of zinc, and alum, one-half to one per cent. solutions. His advice in light cases of glandular endometritis is to follow this general plan:

First, an injection of from one-quarter to one-half a quart of sodium solution (three per cent.), followed by (according to the cause) a two per cent. carbolic, or one-half per cent. lysol, or two per cent. silver nitrate, or five per cent. zinc or cupric sulphate, or aluminate of copper (five per cent. solution) into the uterus through an ordinary (or Budin's) catheter, the instrument being moved from side to side to allow the fluid to flow out. The instrument being removed, a tampon of iodoform gauze is placed before the uterus, and the patient allowed to rest an hour to avoid the colicky pains which may follow. If colic comes despite this precaution, or if there is unusual tenderness of the adnexa, then the operation is discontinued and a pause of from four to five days is enforced.

In light cases of fungoid endometritis with metrorrhagia, of bleeding from myomas, and parenchymatous hæmorrhages, Winckel injects the sesquichloride of iron into the uterine cavity, in which a dilatation is unnecessary. (He has pursued this plan for seven years in one case of myoma; injections four to five times a year.)

The use of medicated pencils of alum, zinc sulphate, cupric sulphate, etc., is not recommended, owing to their too caustic and destructive action. Applications should be made by means of a Playfair's sound or some similar instrument. In those cases which resist the foregoing treatment, the uterus is wiped out by means of the sound and a piece of cotton with either liquor ferri sesquichloridi, tincture of iodine, alum (one per cent. solution), or two and a half per cent. to fifty per cent. chloride of zinc.

As a final treatment in especial cases, applications can be made to the uterine mucous membranes with a Paquelin or electric cautery, or an electric stream may be passed through the uterus and abdominal walls by means of an electrode in

the uterus and one on the belly wall, one hundred to two hundred milliamperes being passed for ten minutes.

When the disease has resisted all local applications, as often happens, then resort to curetting if necessary, and this plan is followed by Winckel :

Always administer ether. Fix the uterus, dilate the cervix, curette carefully; then wash out the uterine cavity until neither blood nor shreds of membrane come away upon the applicator; then a sound is passed into the cavity with gauze soaked in liquor ferri sesquichloridi.

The cervix is now dried with absorbent cotton and the vagina packed with iodoform gauze.

The patient rests in bed from three to five days. Washing out of the vagina is all that is necessary. Only in cases of fungoid, or where there is strong bleeding, is a second application necessary. In purulent endometritis, after a month, the milder means are again resorted to.—*Ed. Therapeutic Gazette.*

MEDICAL NOTES.

Small doses of nitro-glycerine given for any cause, just prior to the menstrual epoch, will prevent the flow entirely.

The internal use of chloroform is very successful in colica pictonum.

A drachm each of camphor and chloral hydrate rubbed together, and added to an ounce of rose-water, is highly recommended as a local application for pruritus in any part of the body.

Gelseminum controls pain in the ovaries better than anything else, except narcotics.

Use black pins in surgical dressings; they will not rust and can be more readily seen.

In cases of vomiting from almost any cause, one-quarter grain doses of codeine usually answer exceedingly well.

Nitro-glycerine, alias trinitrin, alias glonoin, has been proved an efficient remedy for puerperal eclampsia in the dose of one-hundredth drop every hour.

Tincture of iodine of double strength, or one drachm to the ounce of ninety-five per cent. alcohol, when thoroughly applied by means of a feather, or better, by a camel's hair pencil, to boils, etc., will relieve all pain, and shorten the stages of supuration more than one-half.

The oil of cade is an old-fashioned remedy which was once used extensively as a cure for eczema and kindred disorders, with better results than many more recent remedies. It has cured many cases of alopecia.

Dr. Haumer has found that the application of chrysarobin in chloroform (1 to 10) to be most the successful treatment of psoriasis.

Do not neglect the use of the arsenite of copper in the treatment of the acute watery diarrhæas of infancy and childhood.—*Medical Summary.*

A NEW INTRA-UTERINE IRRIGATOR, DILATOR, AND RÉCAMIER CURRETTE COMBINED.



During many years of an active gynæcological and obstetrical practice I have frequently met with cases of adherent or retained placental tissue where curetting and irrigating the uterus were necessary, and I have always found it difficult to obtain an instrument which possessed the combined qualities of effecting sufficient dilatation and irrigation of the cavity. I have, therefore, been led to devise an instrument which is simple in design and perfectly aseptic.

The subjoined cut shows the instrument both closed and partly opened. It is capable of carrying a steam sufficiently large to wash away *debris* to an extent not attained by any instrument heretofore in the hands of the profession. *C*, is practically a straight cannula, through which a rod an eighth of an inch in diameter can easily be passed for cleansing purposes; or a piece of sponge, attached to a wire supplied with an eyelet, can

be drawn through, and the instrument kept clean and perfectly aseptic.

The instrument is as easily manipulated as any ordinary uterine dilator, and, when it is introduced into the uterine cavity and opened to its fullest extent, by gentle traction the uterus can be brought down without the use of a tenaculum. The instrument consists of two parts, the injector and a Récamier curette, held together by a modified French lock, *b*, the blades being kept closed to form the dilator by means of an adjustable spring.

Thanks are due to Messrs. Tiemann & Co. for the careful and skilful manner in which they have constructed the instrument, and it is hoped that it will prove useful in the hands of obstetricians and gynæcologists.—A. B. Adler, M. D., in *N. Y. Med. Jour.*

ON THE MODE OF DEATH IN CEREBRAL COMPRESSION, AND ITS PREVENTION.—Victor Horsley calls renewed attention in the *Quarterly Medical Journal*, 1894, vol. ii., part iv., to the fact that in fatal cases of cerebral compression death is due to respiratory failure. This has been experimentally demonstrated by a number of investigators, among the most recent of whom are Spencer and the author. Their results led them to the general conclusion that a rise of pressure within the skull caused a slowing and diminution of the respiratory movements, and later arrest of the same.

The three common causes of increased intracranial tension which have been submitted to surgical treatment are cerebral tumors, hæmorrhage, and inflammatory foci. In each of these sudden death is apt to occur from arrest of respiration, unless the pressure be relieved by trephining.

Four cases of intra-cranial tumor—three of the cerebrum and one of the cerebellum—are cited in illustration of the subject. In one of these death resulted from respiratory failure on the morning of the day appointed for the operation. In the other three cases the failure of respiration occurred on the table during the operation for the relief of the cerebral condition. In each instance the patient turned suddenly white, the respiration became extremely shallow for a few breaths, and then stopped altogether. Artificial respiration was at once resorted to, and the skull rapidly and adequately opened over the supposed site of the tumor with the trephine and bone forceps. In every instance normal respiration returned, the movements being a little shallow at first, but soon assuming their customary proportions.

In experimenting on monkeys Horsley found that hot irrigations (100° to 105° F.) were very beneficial in removing the shock of the operative procedure and in restoring the activity of the respiratory centre. He therefore has an assistant irrigate the head freely with bichloride of mercury—about 1 : 10,000—at the temperature mentioned during these operations. In this connection he expresses doubt whether the routine treatment of applying an ice bag in head injuries ought not to be given up.

Attention is directed to the class of cases in which a person receiving a blow on the occipito-temporal region falls unconscious and dies, or, as is said, falls dead. Death results in these cases, according to Horsley, from respiratory arrest, and they are eminently cases requiring artificial respiration, although this seems to have been entirely ignored heretofore.

In conclusion the author states that of all of the lower nerve centres which are necessary to the functions of so-called organic life, the respiratory centre is the most sensitive to mechanical pressure and shocks; that where death results in cases of intra-cranial pressure, artificial respirations should

be immediately performed, and the skull opened freely at once; that in cases of sudden shock artificial respiration should be directly instituted, and that in every case heat should be applied to the head—preferably by irrigation—*Am. Jour. Med. Sciences*.

THE CAUSATION AND PATHOLOGY OF PELVIC INFLAMMATION.—L. S. McMurtry, *American Journal of Obstetrics*, says, The uterus is almost invariably involved in the process, its cavity being, as a rule, the point of departure and route of access of the inflammation. The inflammatory process, beginning in the uterine cavity, extends along contiguous mucous surfaces through the Fallopian tubes to the peritoneum, often destroying tissues and invading parenchymatous structures in its advanced course. The salpingitis, peritonitis, ovaritis, exudation, adhesions, pyosalpinx, hematosalpinx, hydrosalpinx, ovarian abscess, and lesions of the bowel are but resultant factors in the disease, corresponding to the intensity and stage of inflammation and structures involved.

The disease is one and the same, of which these are the varied expressions, and must be considered as a single disease having numerous stages and sequelæ and many causes.

Pelvic inflammation originates, practically without exception, from septic infection.

Septic infection may be specific or traumatic, including among traumatic causes the wounds of childbearing and abortion. Puerperal infection exceeds all other etiological factors in this disease. The open surface left by separation of the placenta is particularly liable to infection, as is also the intra-uterine surface after abortion. The enlarged lymphatics and hypertrophied blood-vessels, torn across and gaping, the process of degeneration following the complete term of pregnancy, almost pathological, offer a most receptive surface for absorbing, developing, and diffusing the slightest contamination by septic matter. An amount of septic matter will suffice to infect a woman under these conditions which would be resisted and overcome by the normal non-gravid uterus.

Moreover, the retention of portions of placenta partially detached and deprived of circulation renders infection even more easily accomplished.

A combination of puerperal infection and gonorrhœal infection may coexist in the same individual, and give rise to what is termed mixed infection. This is by no means a rare occurrence.

A different class of traumatic infections is that of certain surgical operations and manipulations upon the uterus, such as arise from the use of sponge-tents, dilators, operations on the cervix and within the uterine cavity. The traumatism by which tissues rich in lymphatics are exposed to infection by foul discharges and dirty instruments is often the initial step in severe grades of pelvic

inflammation. It is not the traumatism *per se* which begets the inflammatory process; it is the admission of septic material. The inflammation is prevented by a healthy, clean mucous membrane and a proper aseptic condition of instruments.

Among other causes of pelvic inflammation may be mentioned tubercular salpingitis; the eruptive fevers, especially scarlatina and variola, and a sudden suppression of menstruation.

The irritation from other morbid conditions, such as that which arises from rupture of cystic growths, the pressure of solid tumors and obstruction of the tubes with retention and extension of secretions, with hypertrophy of epithelial and interstitial elements are factors in the production of a localized peritonitis. Imperfect development and malformation of the uterus and appendages may sustain a causal relation to pelvic inflammation. In studying the lesions of pelvic inflammation the tubes are of greatest importance, since they are the route of access and focus of the inflammatory process. The various classifications of the disease are but anatomical limitations of a single pathological process, determined by the character of infection, and nature's ability to resist its access by confining its area. At the outset there is congestion followed by effusion. The effusion is from the mucous membrane and into the underlying connective tissue. The rapidity and extent of this process depend upon the virulence of the attack and the condition of the parts. The tubes become filled with serum, which may drain into the uterus or discharge through the fimbriated ends into the peritoneum, or it may be retained by closure of these openings. The exudation into the tissues varies, making the tube-walls more or less thickened by infiltration with cells, in some instances penetrating the walls, and directly invading the peritoneum. The tube becomes adherent to the uterus and ovary, the broad ligament is matted down, and the fimbriæ covered over. Should nature's efforts avail to confine the effusion by sealing the fimbriated extremity of the tube, a hydrosalpinx will be formed. If the inflammation is accompanied with hæmorrhage, a hematosalpinx results. Resolution may take place more or less perfectly later on. If the process ends in suppuration there is a pyosalpinx. If the contents leak through the fimbriated opening into the peritoneum, whether pus has formed or not, active peritonitis results. This is a conservative process, nature endeavoring to shut off the general peritoneal cavity by adhesion, and thus limit the inflamed area. Later on this exudate may be absorbed, or undergo organization and suppuration. When this process is virulent, tissues are infiltrated and destroyed by the intensity of the process, and break down by slight manipulation.

THE INFLUENCE OF THE LIVER IN THE DEVELOPMENT OF PANCREATIC DIABETES.—Although we have learned that certain lesions of the central nervous system and destructive changes in the pancreas respectively are attended with glycosuria, the etiology and pathology of diabetes mellitus are yet unexplained. Whatever be the chemic and metabolic changes upon which the excretion of sugar in the urine depends, there is evidence that no small part in the morbid process is played by the liver, of whose multiplicity of function we really know comparatively little. There is good reason for believing that under normal conditions the liver either stores up or converts into other bodies a substance allied to sugar, and which, under certain morbid conditions, appears in the urine as glucose. Additional evidence of the influence of the liver in the development of diabetes is furnished by the results of some experiments detailed at a recent meeting of the Berlin Physiological Society, by Marcuse, who undertook to determine if the diabetes that appears after extirpation of the pancreas manifests itself in case the liver is also removed. As the animals experimented with were likely to die sooner in consequence of the two operations than after the extirpation of the pancreas alone, the question arose as to whether or not the animals would live long enough to afford time for the development of the diabetes. To decide this point a series of observations were made upon nineteen frogs. It was found that in the twelve of these in which diabetes developed, this appeared within the first day or two, the animal living on an average for five days. The proportion of sugar contained in the urine, as determined by polarization, equalled 9.4 per cent. In a second series of almost parallel cases, both liver and pancreas were removed, with the result that in not one of the animals did the diabetes develop. These animals lived for from one to five days after the operation. The amount of urine excreted was considerable, though not so great as in the case of the animals from which the pancreas only had been removed. In explanation of the influence of the liver in the development of the diabetes that follows removal of the pancreas, it is suggested that there is formed in the liver a substance that, while not itself sugar, is yet of importance in the development of diabetes (perhaps a sugar-forming ferment), or that certain elements in the blood that are acted upon by the liver remain in the circulation after extirpation of this organ, and bring about decomposition of the sugar present after extirpation of the pancreas.—*Med. News.*

CARE OF THE MOUTH IN SICK PERSONS.—Rosenbach (*Zeit. für Krankenpflege*) says that in many illnesses there is almost sure to be secondary trouble in the mouth, if preventive measures be not taken. A warning sign is dryness and red-

ness of the tongue and mucous membrane of the mouth, with difficulty in swallowing. Further signs are an evil odor from the mouth, coat of tongue and gums, bleeding of the gums, etc. Parasites are always present in the mouth, but it is only when the tissues are weakened that they undergo invasion by these parasites, which become then really pathogenic. Rosenbach concludes with the following rules: (1) Patients with good digestive powers, free from fever, and with no loss of consciousness, require no more than the ordinary care of the mouth. (2) In children and very old persons, the less solid food taken the greater should be the care with the mouth. They should rinse the mouth out several times a day with lukewarm water, containing a little common salt, tincture of myrrh or eau de cologne added to stimulate secretion. When there is a tendency to bleeding of the gums, or when the teeth are bad, a pinch of powdered boric acid may be twice daily rubbed in between the lips and gums. Patients with false teeth should remove these when, owing to a loss of appetite or chronic gastric disturbance, they cannot take solid food. (3) In patients with partial loss of consciousness, the mouth should be examined several times a day for small sores, such as may arise from the pressure of the teeth and the lips, etc. Such sores should be powdered with a little boric acid or chlorate of potash, and the cracks at the corners of the lips heal quickly if dried with a clean towel and treated with boric acid or vaseline. The mucous membrane may be stimulated by wiping the tongue and mouth, and pressing on the tongue with a moist towel every two or three hours. If necessary, the hinder part of the tongue should be cleaned with a wad of cotton wool fastened to a stem. If the patient sleeps with the mouth open, the air in the room must be kept moist. A moistened layer of muslin laid on the mouth may be of some service. (4) Patients with fever should have something to drink—cold water or weak lemonade—at least every hour. One must not wait till the patient asks for a drink. Besides preventing dryness, the fluid maintains the activity of the glands, and the whole function of the mucous membrane. Many patients are prevented from drinking by a painful, dry and cracked condition of the lips, and, therefore, all feverish patients should, from the commencement of their illness, have their lips rubbed several times a day with vaseline or fat. In protracted cases of fever, the mouth may also be swabbed out with oil, fat, or greatly diluted glycerine.—*N. Y. Medical Times.*

THE TREATMENT OF MILIARY TUBERCULOSIS WITH GUAIACOL.—The *Journal des praticiens* for January 12th publishes an article on this subject in which the writer says that since the year 1893 simple painting with guaiacol has been employed

in cases of febrile tuberculosis. Bard, Lépine, and others have demonstrated by a series of observations that its antipyretic action does not improve the condition of consumptives with cavities, that it may perhaps ameliorate sclerosis, but that it produces better results in limited military tuberculosis of a doubtful diagnosis. These lasting curative results differ from the transitory antipyretic action obtained in ordinary tuberculosis. The writer relates the histories of four cases in which this treatment was employed, and the following conclusions from a physiological point of view, he says, may be drawn: 1. The antipyretic effects of guaiacol are rapid and lasting in military tuberculosis. 2. The effects on nutrition are shown by the amelioration of the general condition and of the local lesions. 3. Sometimes cutaneous erythema, hypothermia, and a tendency to collapse may be observed, which are due to the impurities in the guaiacol, and not to the medicament itself. Its positive indication is true tuberculous fever with the formation of new granulations; its contraindication is hectic fever.

The method of administration consists in varying the dose from eight to thirty grains at each application. Boscq prescribes the following mixture in order to produce the greatest tolerance: Equal parts of chemically pure guaiacol and sweet-almond oil. The backs of the hands are painted with this mixture and immediately covered with cotton, which is kept in place with a bandage.

A Russian physician, Bartoszewicz, who experimented with this treatment on sixty-five patients in Dr. Laminowsky's service at Kharkow, employed compresses of guaiacol on the anterior part of the chest and over the back. A piece of linen was moistened with from twenty-five to thirty drops of pure guaiacol and applied on the skin, which was then covered with waxed paper kept in place with a bandage, and allowed to remain for from one to two hours.—*N. Y. Med. Jour.*

THE RELATION BETWEEN ACUTE RHEUMATISM AND ENDOCARDITIS AND MYOCARDITIS.—While it is generally conceded that acute rheumatism belongs in the category of infectious diseases, the proof of a specific mycotic etiology is yet wanting. It is true that several observers have described various organisms both in the synovial effusions and in the lesions of the complicating endocarditis; but the evidence is not sufficient, on the one hand, to ascribe to any one of these specific etiologic properties, or, on the other hand, to justify the conclusion that rheumatism, like pneumonia, may have a multiple etiology, although it is known that articular involvement occurs in connection with gonorrhoea, typhoid fever, scarlatina and smallpox, as well as with rheumatism. The etiology of endocarditis is likewise somewhat obscured in doubt, though here the likelihood of

multiple etiology is greater than in the case of rheumatism, and is strongly supported by the bacteriologic evidence. While the relation between rheumatism and endocarditis and myocarditis is recognized clinically, the nature of the etiologic relation has not been clearly demonstrated. In an interesting address before the Society for Internal Medicine of Berlin *Deutsche med. Wochenschrift*, 1894, Leyden considered this subject, and reported a series of cases of acute rheumatism complicated by endocarditis, myocarditis and pericarditis, singly or together, in most of which he was able to isolate a delicate diplococcus, differing from any hitherto described, and unequivocally distinguishable from the various forms of staphylococcus, the streptococcus, and the diplococcus of pneumonia. The inference to be drawn is that this organism is the cause of acute rheumatism, and likewise of the secondary complications.—*Med. News*.

THE MEDICINAL TREATMENT OF RICKETS.—J. Comby, (*La Médecine Moderne*), calls attention, in an able article, to the medicinal treatment of rickets. The author referred to the method employed by various clinicians, especially to that of Kasswitz, of Vienna. It consists in the administration of phosphorus associated with cod-liver oil, according to the following formula :

R—Cod-liver oil, 1 litre (33.81 ounces) :
Phosphorous, 10 centigrammes (1.5 grains).

Comby has tried this method, with more or less good results, in forty rachitic children, aged from ten months to three years. Children less than a year old were given a dessertspoonful of the above prescription ; those from twelve to fifteen months old, two dessertspoonfuls ; and those above the latter age, three dessertspoonfuls. On an average, each little patient took daily 1 milligramme ($\frac{1}{60}$ grain of phosphorus and 8 to 10 grammes (2.2 to 2.7 fluidrachms) of cod-liver oil. As a general rule this treatment was well borne. However, one child had diarrhœa, which may have been caused by the oil as well as by the phosphorus ; another child had patches of eczema ; and still another little patient developed urticaria. But, on the whole, ill effects, the author says, are rarely caused by phosphorus if it be administered in small doses. Of the forty cases thus treated during several months, twenty-one were improved, in eighteen no positive results were obtained, and one case was made worse. To compare this method with the old treatment, consisting of salt baths, cod-liver oil, and phosphate of calcium, he employed the latter in a second series of forty cases. These children the author placed under salt baths and the internal administration of cod-liver oil. The percentage of amelioration, two complete cures and four failures. From these re-

sults, Comby believes that phosphorus is not a specific medicament in rickets. The judicious employment of phosphorus, in doses of $\frac{1}{2}$ to one milligramme ($\frac{1}{60}$ to $\frac{1}{30}$ grain) a day, in an oily vehicle, is harmless, and may be of some service. The remedy is an adjuvant, but not an infallible medicinal agent in rickets, as has been claimed. Aside from hygienic measures, the author believes that, on the whole, syrup of the iodide of iron, cod-liver oil, and perhaps some of the preparations of cinchona are the best remedial agents to be employed in the treatment of this disease.—*Therap. Gaz.*

THE TREATMENT OF CERTAIN AFFECTIONS OF THE STOMACH.—From a recent article of Dujardin-Beaumont, (*Bull. Génér. de Thérapeutique*), we cull the following : Every individual suffering from disease of the stomach in whom there exists a true arrest of gastric function, or a tendency to such a condition, should, on going to bed, lie on the right side, in order to facilitate the passage of the food into the duodenum. Lying on the left side gives rise to the formation of a large amount of gas, accompanied by a regurgitation into the œsophagus of the products of digestion. Patients should make use of warm drinks. The usefulness of these is evident ; in fact, warm water is one of the best means to excite muscular contractions in the stomach, but it is liable to cause vomiting. It is, therefore, preferable to administer infusions of chamomile, aniseed, or other similar aromatic substances, and as warm as they can be borne. In these cases the injection of mineral waters is likewise useful. Alkaline waters in small doses, half an hour to an hour after meals, increase the secretion of gastric juice and its acidity ; hence their advantage in cases of dyspepsia attended with a subnormal amount of hydrochloric acid in the gastric juice. Even in those cases where there is an excess of this acid, the alkaline waters do good, and in these instances through a different mechanism ; they influence the mucous membrane of the stomach, so as to diminish its congestive and inflammatory condition, which is often the origin of the hyperacidity. The same may be said in regard to the use of bicarbonate of sodium, which should be administered during or after meals. A very good adjuvant in these cases of slow digestion is massage ; this measure not only enhances muscular contraction of the walls of the stomach, but also increases the secretion of gastric juice, and manifestly modifies for the better chemical changes during digestion.—*Thera. Gaz.*

ON THE USE OF ANTIPYRIN IN LARGE DOSES.—The writer advocates the use of very large doses of antipyrin in certain neurotic cases. He says that personally he has hardly any experience of its deleterious effects—at least of a serious

nature—when employed with due precautions. He details the case of a boy, aged nine years, who had suffered for the previous two and a half years from severe fits of hystero-epileptic character, sometimes as many as 30 or 40 attacks occurring in a day. The treatment consisted of rest in bed, regulation of the bowels, and the exhibition of antipyrin in gradually-increasing doses, commencing with five grains, thrice daily. In three weeks he was taking twenty-five grains three times a day, with complete cessation of the attacks. The dose was then slightly lowered. The lad was dismissed from the hospital in two months as quite well, and it was reported later that there had been no recurrence of the attacks. In another case a lad of thirteen years, suffering from choreic movements of the right side, received under gradually increasing doses as much as 50 grains thrice daily. He left the hospital in six weeks quite well. In another violent case improvement was very rapid under similar treatment. Dr. Anderson sums up his experience in the following aphorisms: 1. Antipyrin is not the dangerous drug that some observers have led us to suppose. 2. It may be given with safety in large doses, but the initial dose must be small, and it must be slowly and cautiously increased under careful supervision. 3. In large doses it often yields surprisingly good results, and in chorea it is the only medicine from which cures may confidently be expected.—*Brit. Med. Jour.*

A NEW METHOD OF CHLOROFORM NARCOSIS—Cardiac syncope in chloroform narcosis, so far as it could be attributed to the chloroform, was, except from an overdose and carelessness, a reflex phenomenon. It, as well as the stoppage of the respiration that accompanied it, was due to irritation of the peripheral nerves of the nasal mucous membrane. All inhalations of anæsthetics produced these reflex symptoms. By proper cocainezings of the nasal mucous membranes the whole of the reflexes proceeding from it could be avoided. The greater part of the dangers of inhalation of anæsthetics were avoided in this way, especially those produced by chloroform. Cocaine possessed a certain antidotal or antitoxic action as regarded chloroform. Chloroform, as the least dangerous anæsthetic, was to be preferred to ether. The chloroform should be given from the commencement, and through the whole narcosis by drops, and the administration should always be preceded by the cocaine spray.—*Berlin Cor. Med. Press and Circular*

CHEMICAL research proves that Kola contains a large percentage of Caffeine (the active principle of tea and coffee), also Theobromine, the stimulating principle of Cacao. But not to these alone is its remarkable virtue to be credited, as further

investigation proves that the fresh (undried) Kola nut contains a peculiar active principle (glucoside) found in no other drug, to which the name of Kolanin has been given. It is now definitely determined that to this peculiar principle, which is found abundantly in the fresh nut, is mainly due the marvelous action on the human organism, as in the drying of such Kola nuts as are generally imported to this country this most valuable principle is partially, if not wholly, decomposed into caffeine.

F. Stearns & Co., of Detroit, Mich., were the first manufacturing pharmacists to take advantage of the knowledge of this fact, and they have prepared a delicious Wine of Kola, to which they have given the fanciful title of "Kolavin" to distinguish their product from similar preparations which may in time appear. Kolavin is made from fresh (undried) Kola nuts, each tablespoonful dose representing thirty grains of the fresh nuts. It is palatable and delicious, and highly recommended in the treatment of nervous exhaustion, atonic dyspepsia, melancholia, various diseases of the heart, asthma, sick headache, sea sickness, chronic alcoholism, etc.

Physicians who desire to test this new product can obtain samples of "Kolavin" and literature on Kola by making application to F. Stearns & Co.

DR. CHAUNCY STEWART, of Allegheny City, Pa., has used Iodia very extensively in his practice and regards it as the "ideal alterative"—the *sine qua non* in the treatment of syphilis, scrofula, and all diseases arising from syphilitic contamination or a strumous diathesis. IODIA has this advantage over mercurial treatment in syphilis; when the patient does get well, HE IS WELL. He is not tortured with mercurial rheumatism nor made to blush through the syphilitic blossoming of his face in after years. HE IS WELL. Unlike the long-continued use of other alteratives, IODIA does not reduce and debilitate the constitution, but invigorates and restores the vital powers and enables the patient at all times to continue in the discharge of his vocation.

Every periodical now and then gets one of its copies back with "refused" marked on the cover. We think Bill Nye was about right when he said: "A man may ride on the back coach of a railway train to save interest on his money till the conductor gets around, or stop his watch at night to save wear and tear, or leave his 'i' or 't' without a dot or cross to save ink, or pasture his mother's grave to save corn, but a man of this sort is a gentleman compared to the fellow that will take a paper two or three years, and when asked to pay for it puts it back in the office and has it marked "refused." The above is to whom it may concern, or be likely to concern at any time.—*Hilanta Med. Jour.*

THE CANADA LANCET

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TORONTO, MARCH 1895.

Editorial.

FATTY HEART.

Few cardiac diseases present so many difficulties to the practitioner, either as to exact diagnosis or treatment as does the condition, rather loosely spoken of as fatty heart.

It is necessary to remember that two, and perhaps three, quite distinct pathological conditions must be noted in making a diagnosis in suspected fatty heart. We all know that in long-continued, wasting diseases, accompanied by a high range of temperature, there is a condition akin to, but not identical with the fatty degeneration. The heart muscle shows, on examination, a paleness, and a soft, brittle texture, but histologically presents quite a different aspect from the degeneration induced by phosphorus poisoning, pernicious anæmia, or the myocarditis of diphtheria. This is the heart which so often causes fatal syncope, when a patient recovering from typhoid, rises too quickly in bed, or takes other violent exercise. We may suppose then, that, in such cases, the heart muscle is weakened, flabby and ill-nourished, in common with all the other muscles of the body; and thus succumbs to the unusual strain put upon it.

Then we have the true fatty degeneration, which follows phosphorus poisoning, as it does also the toxic effects of arsenic, mercury and lead; pernicious anæmia, Hodgkin's disease, and sometimes cancer and phthisis.

The third form, usually spoken of as fatty over-

growth, is the *Cor adiposum* of the older writers. It is usually associated with a general tendency to obesity, and may consist in an abnormal deposit of fat under the pericardium, or an infiltration between the muscular fasciculi. This form is induced by an indolent and luxurious mode of life, with overfeeding and drinking, especially beer drinking.

Now, in any suspected case, the form of fatty heart may be generally fairly well made out by carefully scanning the causes which have induced the degeneration; and treatment instituted accordingly.

We said "suspected case," for it is the clinical experience of all who have studied the heart, that *there are no certain signs of the condition.*

It is notable that by physical examination, a fatty deposit in and about the heart, cannot be distinguished from true fatty degeneration. The symptoms usually put down are very obscure and doubtful, and this conclusion of some of the most distinguished clinicians of the day, must be the consolation of many a befogged general practitioner, when listening to a "suspected" fatty heart. There was one landmark which gave confidence in diagnosis, but even that has now been taken from us; "the *arcus senilis* is of no moment in the diagnosis of fatty heart," (Osler).

So we have to consider the condition of the patient; dyspnoea on exertion; great muscular and mental debility; irritability from imperfect nourishment of the brain; coldness of the extremities; slow, feeble, irregular or intermittent pulse; disturbed sleep; cardiac asthma and anginal attacks.

The treatment will of course vary with the particular form under consideration. The heart of convalescents must be saved from undue exertion by the most scrupulous conservation of its energies. Rest in bed, and concentrated nourishment with tonics are the chief indications. Stimulants are useful in many cases to give the necessary fillip to the stomach, both for appetite and digestion.

In true fatty degeneration the above remarks will apply, plus diffusible stimulants to overcome the sense of faintness, together with strychnia and coca.

Opium in any form should be avoided for restlessness and insomnia, and the bromides, prefer-

ably with hop and hyoscyamus, used. If these fail, codeia may be tried, and this failing, morphia with the aromatic spirits of ammonia and chloroform water may be resorted to.

In fatty deposit the treatment will vary with the stage at which the patient comes under observation. If late, and cardiac dilatation and failure show themselves, the same treatment as has just been described will be needed.

If earlier, stop alcoholic beverages, limit the diet, allow no drinking at meals, avoid hydrocarbons and carbohydrates, and insist on moderate, regular exercise on the level.

Oertel's cure for this form of heart disease is practically obsolete.

"BICYCLE HEART."

The advent of the bicycle, with its thousands of admirers has, as is frequently the case with innovations, brought with it certain evils, the result of undue indulgence in its use.

A great deal of discussion has been going on recently, especially in the British Press, regarding what has been called "Bicycle Heart," a condition analogous to the "irritable heart" of DaCosta, due to undue acceleration of the heart's action, the result of the senseless desire of nearly every young man who owns a wheel to be considered a "Zimmerman" or other crack rider.

The sight of a young man humped almost double over his handle bar speeding away as if life depended upon it, is a familiar one to all, and this threatens to cause a deterioration of the race according to Sir S. W. Richardson, who has been delivering a series of lectures on the evil results of excessive bicycling in England.

The trouble is caused by the over-stimulation of the intrinsic cardiac ganglia, which is followed by exhaustion causing a permanent irritability of the heart-muscle, giving rise to many well recognized symptoms.

A case in the practice of Kay Tomory, of Caithness, Scotland, will illustrate the subject :

On June 2nd, 1894, he was consulted by a young man, æt. 23, complaining of palpitation.

On examination of the chest there was found to be a reduplication of the second sound in the pulmonary area, otherwise the heart sounds

were normal, and there was no enlargement of the heart area to be made out on percussion. The pulse was full, regular, and beating at the rate of 76 per minute.

He gave the following history : In the spring of 1892 he began practising *racing* on his bicycle, to train for some athletic sports. Soon afterwards he felt the palpitation complained of, with pain, principally after he retired to bed.

He consulted several medical men, and got a good deal of relief by day, but the pain at night continued. Dr. Kay Tomory diagnosed "Bicycle heart" due to over-exertion in bicycling.

He was advised to abstain from using his wheel, and live in the open air as much as possible, and given bromide of ammonia and arsenic. On the 15th of June he returned, reporting slight improvement. His pulse was 84, regular and full, but the second sound in the mitral area was loud and conducted to the inter-axillary space.

The treatment was changed by the addition of belladonna and digitalis to the ammonia bromide.

On the 18th day of December he returned, reporting himself cured, and, upon examination, the heart sounds were quiet and normal.

Dr. Tomory, in using bromides, acted on the assumption that, owing to the strain on the cardiac muscle, the inhibitory ganglia had been involved, and what was required was rest, as far as bicycling was concerned, and a nerve sedative when the pain and precordial distress was worst.

The above case, presenting symptoms now being recognized by all medical men as due to excessive bicycling, teaches us that, while this form of exercise is very beneficial when not overdone, racing, on the other hand, is apt to produce cardiac fatigue, leading to grave danger unless recognized in time.

LETTER FROM HEIDELBERG.

Dr. Olmstead, in an interesting letter to a friend says :

Prof. Hoffman showed us two nervous cases this evening which to me, were very interesting. One was Monesen's disease—perhaps you have seen a case though it is rare, I believe, in England

and America and quite rare here too. The first patient was a powerfully built young man, with tremendous muscles. At first one would think that there was nothing wrong with him; but when he grasped your hand and gave it a good squeeze, he could not relax his grasp for about 8 seconds, when it would gradually loosen. When he would try to work his fingers they would move very slowly and stiffly at first, but later he could move them as well as anyone. If he was told to get up off his chair and trot across the room, he would carry out the command with the greatest difficulty, just as if all his joints were rusty and needed oiling, but after he got limbered up a bit, he could go as well and as fast as anyone.

The response of muscles to mechanical stimulation was also very interesting. When, for instance, the deitoid was struck with the percussion hammer, the fibres struck would promptly contract, causing a furrow in the muscle, and remain contracted for some 7 or 8 seconds. If the muscles in the ball of the thumb were struck, the thumb would stiffen out, and about 8 seconds would elapse before relaxation would set in. This tonic contraction with the "after duration," (*Nachdauern*) of the contraction was present in nearly all of the muscles of the body, but was more prominent after sudden exertion. Thus, if he closed his mouth and brought his teeth together as tightly as he could, some time would elapse before he could open his mouth again. On his projecting his tongue, placing the fingers behind it, and then striking one side of it with a percussion hammer, the local fibres would contract into a little knot and remain so for several seconds. Mentally he was all right.

The electrical reactions were normal. When applied to the nerves, to both Galvanic and Faradic currents; to the Faradic, strong and well-marked tonic contraction of long continued duration would take place in the muscles supplied by that nerve. With a continuous stimulus undulation of stimulated muscles would occur. By placing the cathode on the breast and the anode on the leg, the galvanic current (about 20 milliamperes), awake-like motion could be seen presently coming from the cathode to the anode. This was most interesting to see, and was first described by Erb. In fact, Erb did all of the most important investigations in this disease.

Cause—Heredity, being transmitted through the male branch of family.

The muscles show hypertrophy of fibres, increased number of muscle nuclei, some of the nuclei occurring in the centre of the fibre, and increased amount of connective tissue. Some muscle fibres have clefts and spaces in them. The connective tissue is increased. It is evidently a disease of the muscles, and not of the nerves.

DR. PAVY ON DIABETES.—When invited to deliver last year, the Croonian Lectures before the Royal College of Physicians, Dr. Pavy took for his title, "A New Departure in Diabetes."—*Med. Rec.* The author's views have long been known as strongly opposed to those of Claude Bernard, and having devoted thirty years to a study of the physiology of the carbohydrates, his theories are at least entitled to a respectful hearing. In these lectures he summed up the results of his studies, and made a final statement of the views which his researches have led him to adopt.

The liver, he said, is not the source of sugar, but on the contrary, abstracts it from the portal blood, and so checks its entrance into the general circulation. If the liver fails in this duty diabetes ensues. He admitted that glycogen is a store of carbohydrate in the liver, but this, he said, is not reconverted into sugar. When removed quite fresh from the body the liver contains no more sugar than other tissues. Venous blood contains as much sugar as arterial blood, and portal blood during feeding is always richest in sugar. What, then, becomes of the hepatic glycogen? It goes to form proteids, or fat, or both. From a series of important experiments it would appear, the lecturer held, that fat is formed from starch not only by the liver, but also by the masses of protoplasm covering the intestinal villi. Thus, there are "two lines of defence" against the entrance of free carbohydrates into the general circulation—the protoplasm of the liver and that of the villi. These transform soluble carbohydrates into fat and glycogen. If from any cause these "lines of defence" are weakened, diabetes results in a degree proportionate to the impairment of function. It is thus we see clinically cases of slight glycosuria amenable to treatment by reducing the carbohydrates of the diet. But in severe cases

the "lines of defence" are entirely broken down. Dr. Pavy explained the occurrence of these severe cases and our inability to help them by diet, by saying that a certain amount of carbohydrate is formed in the process of digestion, even from albuminous food, and in these cases even this cannot be synthetized into proteids.

Why does protoplasm lose its synthetizing power? Dr. Pavy did not think the fault is in the protoplasm, but that the latter is influenced by the vessels, and these, of course, by the nervous system. A hyperoxygenated state of the blood favors the transformation of carbohydrate into glucose and may produce glycosuria. Then dilatation of the arterioles allows a rush of blood through the capillaries, so that the venous blood is not sufficiently dearterialized. This favors the passage of carbohydrates into glucose. The vascular dilatation must depend on derangement of the vasomotor nervous system, and the whole history of diabetes proves that the disease is often due to nervous disorder. In some most intractable cases Dr. Pavy believed the sugar must have come from the tissues, and in explanation of this he conjectured the existence of a ferment acting on their proteid matter which has a glucoside constitution.

SIMCOE DISTRICT MEDICAL SOCIETY.—The twelfth regular meeting of this society was held in the Council Chamber, Orillia, on Wednesday, the 13th inst., the President, Dr. Howland, of Huntsville, in the chair. The following members were present and took part in the discussions: Drs. Howland and Ross, of Huntsville; Dr. Hanly, of Waubaushene; Drs. Ross, Smith and Arnall, of Barrie; Drs. Alex. Harvie, Jas. N. Harvie, A. E. Ardagh, Ainslie Ardagh, McLean, Herriman and Shaw, of Orillia, and Dr. Raikes, of Midland.

Dr. Hanly addressed the meeting, thanking the members of the Association for their assistance in electing him to represent them in the Ontario Medical Council, and outlining the course he intended to pursue as their representative.

Dr. Ross, of Huntsville, read a carefully prepared paper on appendicitis, with a history of his own case. After an animated discussion, taken part in by nearly all the members present, Dr. Ross replied.

Dr. Powell, of Toronto, formerly of Edgar, who

was present as the guest of the society, gave a lengthy and interesting address on the surgical treatment of injuries and disease of the abdominal viscera, explaining the various mechanical appliances which have been recently introduced and which have so greatly lessened the difficulties of abdominal surgery.

Dr. W. A. Ross, of Barrie, read a paper on cancer, going very fully into the question of operative treatment, and illustrating his conclusions by histories of instructive cases.

After some discussion on a motion of the Secretary's to change one of the by-laws, which was carried, the meeting adjourned to partake of a most enjoyable supper provided by the Orillia members of the Association.

R. RAIKES, M.D.,

Secretary.

SPRAY FOR THE NOSE AND THROAT.—In Part Second of Saunders' Question Compend, No. 14, second edition, just issued, Dr. E. B. Gleason recommends for the purpose of spraying the nose and throat the following formula:—Antipyrin, grs. xvj; aquæ, fl. ʒ j.

He says: A solution of antipyrin of the above strength, when sprayed upon the mucous membrane of the nose, pharynx or larynx, has the power of contracting the capillaries and producing an artificial anæmia, which effect is maintained for from three to five hours. The above solution may be used with the atomizer in all inflammations of the mucous membrane of the upper respiratory tract. When used after the application of cocaine to the nose, it will maintain the contractile effect of that drug upon the erectile tissue for several hours; when sprayed upon the nasal mucous membrane without the previous application of cocaine, it gives rise to a smarting sensation, which, however, quickly subsides. Applied as a spray within the larynx by means of an atomizer, it contracts the blood-vessels of the laryngeal mucous membrane and diminishes secretion, cough and expectoration. It is extremely valuable as a remedy for the night cough of laryngitis phthisica, often securing a night's rest for such patients, who may be provided with an ordinary hand-atomizer filled with a solution of antipyrin and instructed to inhale its spray as often as is required to control the cough.

TREATMENT OF VAGINITIS.—Lutand, *Annals of Gynecology and Pediatrics*, abstracts an article, *Revue Obstétricale Gynécologique*, in which the author urges a careful distinction to be made between the acute and chronic stages of the affection, although very little difference exists in the treatment of the simpler and specific forms of the disease.

In the acute stage the speculum should be avoided, the patient kept as quiet as possible, and walking, coitus, and all physical exercise forbidden. Esmarch's douche with two litres of a 1-per-cent. solution of boric acid should be injected about every six hours. Emollient injections, such as starch, flax-seed, or decoction of poppy-heads, are also useful.

In cases of severe pain a suppository of opium may be given at bedtime. Bladder symptoms are relieved by poultices sprinkled with laudanum; bromides, emollient drinks, and alkaline diuretics are prescribed.

Wine is not to be used, but weak tea may be drunk.

For the chronic stage the following injections are recommended to be used three times daily:

R—Acidi carbolici, gms. v.
 Alcoholis, gms. x.
 Ess. thym., gtt. xx.—M.
 Sig.—For two quarts of water.

R—Hydrarg. bichloridi, . . . ctgms. xv.
 Acidi tartarici, gm. j.—M.
 Sig.—For two litres of water.

R—Potass. permangan., . . . gms. x.
 Aquæ dest., gms. cc.—M.
 Sig.—A tablespoonful for two quarts of water.

This last injection is the best remedy for gonorrhœal vaginitis, but it soils linen.

In rebellious cases or when it is necessary to act rapidly, a speculum is introduced and the vagina is painted with a solution of silver nitrate (two grammes in thirty grammes of water).

Before withdrawing the speculum, a large tampon saturated with the following is introduced:

R—Acidi tannici, gms. ij.
 Cocain. hydrochlor., . . . ctgms. x.
 Glycerini, gms. cxx.—M.

This tampon should be left in position two days.

Separation of the walls of the vagina by the introduction of tampons of iodoform or salol gauze hastens the cure of every case.

TORSION FOR RECTAL INCONTINENCE.—A recent paper of Dr. Gerster on this subject, *Boston Med. and Surg. Jour.*, is interesting, as furnishing additional information respecting the method reported by Gersuny, of Vienna, for the treatment of rectal incontinence described in detail in a previous report. The incontinence may be due to congenital absence of the sphincter ani, to paralysis of sphincter from spinal lesions, or surgical injuries due to traumatism or operation. Gerster has used torsion with success to relieve incontinence. He rotates the free end of the gut around its own axis so as to arrange the folds of mucous membrane in spirals. The twisted gut is then sutured to the edges of the external wound. The amount of torsion is gauged by the amount of resistance felt by the index finger on introduction. He did not in two cases make more than one complete twist, but more than one revolution might be required when the freed end of the rectum was long, that is, when five to six inches had been excised and the end drawn down. If not twisted at once, the operation of torsion must be delayed till the rectum is fixed in a mass of granulations to the surrounding soft parts. It is then dissected clear for two or three inches, and twisted till the necessary resistance is obtained. Which method is preferable is not yet known. Gerster has never performed torsion immediately after extirpation, only after dissecting out the rectum, the proximal end when the dissection ended being fixed firmly when torsion was made.

THE TREATMENT OF THE URIC ACID DIATHESIS.—Dr. John F. Barbour, *Am. Therap.*, points out the chemistry and physiology of this condition, quoting from well-known writers upon the subject. The relations of this condition to gout, articular rheumatism, migraine, and cutaneous affections on the one hand, and to certain nervous diseases on the other, as neurasthenia, hysteria, epilepsy, hereditary forms of insanity, general paresis, locomotor ataxia, and the pathology as shown in the kidneys, blood-vessels, and the nervous system, are carefully presented. In the acute attack, piperazine seems to give the speediest results, and of the use of this

remedy three cases are reported. Fifteen grains of the drug, dissolved in one ounce of water, are to be used each day. This is to be further diluted by the addition of a small quantity of this solution to each tumbler of drinking water, and the free use of water both externally and internally is recommended. It is believed that this method eliminates the excess of uric acid and aborts the further diathesis. The treatment of the diathesis is entirely hygienic and dietetic; the patients should keep a perpetual lent. "They are like a smoky flue; everything must be done to increase the draught." The diet should be non-nitrogenous, and the patient should take abundant exercise in the open air.

WHAT WE MAY SEE IN THE SPUTUM.—*Kansas Med. Jour.*—Microscopical examinations have so superseded the older methods that we frequently overlook many valuable points of diagnosis that might be observed with the unaided eye. We may first observe the quantity, reaction and consistence. Patients with bronchitis or cavities, and especially cases of bronchiectasis, have the largest quantity. Unless contaminated with vomited matter, sputum is always alkaline. Mucus sputum usually occurs early in acute bronchitis. Mucopurulent sputum in chronic bronchitis and in phthisis, or in the later stages of acute bronchitis and pneumonia. Purulent sputum (nearly pure pus) indicates a cavity or an empyema. Serous sputum is fluid, and contains albumen and is frothy. It is characteristic of oedema of lungs. Blood expectorated from the lungs is usually bright red, frothy and alkaline. From the stomach it is dark, nearly brown, and acid in reaction. Coal soot makes a black or gray sputum. Fibres and pieces of lung tissue indicate a cavity. Fibrinous casts indicate fibrinous inflammations. These are frequently found in croupous bronchitis.

THE TREATMENT OF OBSTRUCTION OF THE BOWEL BY ELECTRICITY.—Althaus, *Br. Med. Jour.*, has reported the case of a man, fifty-four years old, who for three months had suffered with obstinate constipation. At the time of coming under observation the bowels had not been moved for ten days, and the abdomen was distended and tender. The appetite was lost, and a condition of collapse existed, with sunken face, and a small, feeble

pulse. The introduction of a long tube proved unavailing, and electric treatment was resorted to. An insulated sound, with a free metallic end, was introduced into the rectum, and a moistened conductor applied to the abdominal parietes, chiefly in the region of the sigmoid flexure. Through this circuit a primary faradic current was passed, and its force gradually increased until the patient experienced a decided feeling of vibration in the bowel. In the course of the day a copious intestinal evacuation ensued, with wonderful relief to all of the symptoms. During the next two days the bowels acted ten times, and in the course of a week the patient appeared to be quite well. A second case, in a woman fifty-seven years old, is cited in which a like result was obtained from similar treatment.

COPPER ARSENITE IN THERAPY.—A number of cases are described by Dr. A. Hedlicka, *New York Med. Jour.*, in which he employed copper arsenite locally, with universal success in the various acute and sub-acute inflammations of the mucous membranes, attended with pain, suffusion, and more or less watery discharge. He found it most efficient in solutions of 1.50,000-100,000. These solutions are easily made by dissolving a 1-100 grain pellet in 1½ ounces of water; they are applied at intervals rarely longer than an hour (bladder, urethra, and nose), and frequently not longer than from 10 to 15 minutes. The remedy is rather indifferent in cases where the discharge is thick or persistent, unless the affected surface be previously thoroughly cleansed. The duration of the treatment ranged from a few hours to two or three days in mild cases, from several days to three months in severe cases. The author pretends to have never failed; relief being nearly always instantaneous, no other remedies were needed.

APPENDICULAR COLIC.—*Brit. Med. Jour.* 1. The vermiform appendix is liable to partial occlusion of its canal from various causes, some of which are permanent, while others are transient. 2. The symptoms by which such incomplete obstruction is to be recognized are those of "appendicular colic." 3. In cases of recurring appendicular colic, and especially if there be at the same time an increasing severity, our practice should be to recommend the removal of the appendix. 4.

The time has arrived when such misleading names as typhlitis, perityphlitis, cecal and pericecal abscess should no longer be applied to diseases having their origin in the vermiform appendix, seeing that appendicular colic, appendicitis, and appendicular abscess more correctly and quite as euphoniously and concisely describe the conditions in each case referred to.

THE FLAP METHOD OF OPERATING.—Chiene, *Brit. Med. Jour.*, advocates the more general use of the flap method of operating. It consists in exposing a part by means of a flap instead of making a direct incision down to it. The advantages claimed are that as the wound in the deeper parts is at a distance from the skin wound, the skin over the deeper wound is not interfered with; it supports the deeper tissues which have been divided, and rapid healing takes place. The flap is composed of skin and subcutaneous tissue. It should, as a rule, be crescentic, and not horse-shoe shaped. The incision should be made as far as possible from the sources of septic infection. The main blood-supply should enter the base of the flap; this, however, is secondary. He recommends its use in the removal of loose cartilages from joints, in operations for hernia, in excision of the knee, in removal of tuberculous glands, operations on the tendons, and in many other cases.

A CLINICAL STUDY OF THE EFFECTS OF INHALATIONS OF CHLOROFORM AND ETHER UPON THE KIDNEY.—Wunderlich, *Cent. f. Chir.*, has examined the urine of 100 cases of ether and chloroform narcosis. The urine was carefully examined before and after, both microscopically and chemically. The investigations gave the following results:—

1. In those cases in which albumin is already present, the amount of albumin is markedly increased—that is, when ether is the anæsthetic used.

2. Albumin is frequently seen after inhalations of chloroform and seldom when ether is used. The albuminuria usually disappears in from twenty four to forty-eight hours.

3. When chloroform is used casts are frequently found in the urine, but seldom after ether. The cause of the albumin and casts is, in the author's

estimation, an ischemia of the kidney or an increase in the blood-pressure.

The author in conclusion says the so-called "ether nephritis" may be excluded from medical literature.

BICARBONATE OF SODA IN ARTHRITISM.—Dr. A. Cavazanni, *La Semaine Médicale*, has found the bicarbonate of soda to be the best remedy in the treatment of the articular and muscular pains, either with or without swelling, of arthritic patients. It must be given for a long time, in doses of one to four grams a day. With this simple and efficacious measure he has succeeded in relieving eight cases where other remedies had failed. He would not advise its administration in powder, but rather a weak solution while the stomach is empty.

SUGAR AS AN OXYTIC.—Dr. Bossi, of Gally, finds that sugar possesses the power of stimulating the uterine contractions. About an ounce is given dissolved in water, and its effect on the pains during labor is usually manifest in from 25 to 40 minutes. Rarely a second dose is required. The contractions induced are of the usual normal character.

NOT AFRAID OF ANTIKAMNIA.—"I would not hesitate to take fifteen grains of Antikamnia at a dose, and even repeat it every half-hour, if required. I am subject to severe attacks of neuralgic headaches, and I take big doses with no untoward effects."—Dr. C. Alex. Garnsey, Batavia, Ills.

WM. R. WARNER & Co., Philadelphia, will mail their Therapeutic Reference Book, a very handy little volume, to any of our subscribers who will send fifteen cents to cover cost of mailing.

FREDERICK STEARNS & Co. have established a \$600 fellowship of two years, at the Ann Arbor University. It is to be called the Stearn's Fellowship of Pharmaceutical Chemistry and Pharmacology.

Dr. Dana declares that five drops every three hours of arbor vitæ relieves the most severe case of cystitis.

THE ONTARIO MEDICAL ASSOCIATION will meet in Toronto, June 5th and 6th, under the Presidency of R. W. Bruce Smith, of Hamilton.

DR. HERMAN MYNTER, of Buffalo, reports a case of sarcoma of the abdominal cavity cured by the toxins of erysipelas.

THE PHYSICIAN'S POCKET DAY BOOK AND VISITING LIST.—The Medical Novelty Company, 21 West 23rd Street, New York, will be very glad to supply this work free throughout the year to any of our subscribers who will send them their names.

Books and Pamphlets.

THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY. By Dr. Hermann Tillmanns, Professor of the University of Leipzig. Translated from the third German edition, by John Rogers, M.D., and Benjamin Linton, M.D., New York. Edited by Lewis A. Stimson, M.D., Professor of Surgery in the University of the City of New York. New York: D. Appleton & Co. Toronto: Carveth & Co. 1894.

A proposition that in Surgical Pathology more real progress has been made in the last fifteen years than during the previous fifteen centuries is one that can be easily and successfully maintained. In no other department of medicine has there been anything like such rapid advancement.

The natural result of this is that the standard authorities of but a few years ago are out dated, and must be replaced. Pajet's and Billroth's works no longer represent the accepted teachings of department. The trouble has been that for some years there have been no other works available, in English, to replace them. The need of something new, presenting within the limits of a single volume the present *status* of Surgical Pathology has been acutely felt, and to meet this demand Tillmann's Principles, a work which at once upon its publication in January, took a leading position, is now presented.

It is just the book for surgeons who entered practice before Surgical Bacteriology had been developed so as to afford, as it now does, a firm foundation for the best clinical work. By its aid one's knowledge of the results of most recent

investigations can be, so to speak, brought up to date. No surgeon however experienced can read it without having his *technique* consciously or unconsciously improved, and his grasp upon the fixed facts of surgical science made more secure.

In illustrations, type, paper, and binding, Tillmann's Surgical Pathology is up to the Appleton Standard, and that standard, as we all know, is unsurpassed.

LABORATORY GUIDE FOR THE BACTERIOLOGIST. By Langdon Frothingham, M.D.V., Assistant in Bacteriology & Veterinary Science, Sheffield Scientific School, Yale University. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut Street. 1895. 8vo. pp. 93., 75 cts.

The object of this manual is that of supplying, in concise and convenient form, the ordinary methods of bacteriological technique, which are otherwise only to be found in the larger textbooks, or in serial literature.

The introductory chapter, which supplies details for the arrangement and working of a small laboratory, is really the most valuable part of the book, and will, doubtless, be appreciated by those who have not had the opportunity of acquiring practical knowledge of this kind. This is followed by formulas for stains, together with their method of application, the order of the various manipulations being indicated by numbered paragraphs, so that failure is reduced to a minimum. The methods comprise all that are likely to be required by the physician, in the demonstration of pathogenic germs, and also include the staining of spores, and the cutting and staining of infected tissues. The formulas have been selected with care, and are fairly representative, but we cannot help noticing a probable typographical error in regard to Loeffler's methylene blue, in which the strength of the potash solution is stated to be ten times that recommended by the originator.

The chapter on the preparation of culture media embraces the ordinary kinds, including the quick method for serum, but not giving the special differentiating media, as those of Parietti, Uffelmann, and others. The matter is, however, so arranged that alternate blank pages are provided for the introduction of written additions or remarks. The illustrations, which are very good, represent several typical micro-organisms.