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Original Communications.

HEMORRHAGIC PANCREATITIS.*

BY W. J. McNICHOL, M.B. (TOR.).

On November 30th, 1903, I was called about 10 p.m. to see a Mr B.—, aged 45. His family history was excellent. Personal history good.

He was formerly a merchant by occupation, but on account of gradually increasing obesity sold his business and bought a farm, thinking by this means to reduce his flesh, or, at least, to stop the increase. His habits were most excellent; he did not drink, and his previous history was good, except for his tendency to flesh, and a little indigestion at times, accompanied by little colicy pains now and then, and what he called "gaseous spells," especially after meals. He was a very hearty eater, in fact, too much so. He had no typical history of gall-stones, although there was a very slight tinge of yellow in his skin, otherwise he had always been a healthy, strong, robust man. One evening, about a week or ten days previous to November 30th, 1903, he attended a church entertainment, and something that one of the speakers (a Methodist minister) had said, suddenly dawned on him as particularly funny or ludicrous, and he suddenly burst out into hearty and uncontrollable laughter, in fact, so much so that the audience and I had a hearty laugh at his expense. When questioning him I remembered the incident, and asked him if he felt all right after it, and he told me that he had a good deal of pain after that, and passed a very restless and uncomfortable night, and that while feeling no great inconvenience the week following, he did not feel just as he thought he ought to.

*Read before the Hamilton Medical Society, March, 1904.

On November 30th, about 9.30 or 10 p.m., I was called in. He said he had eaten an unusually hearty dinner at noon, but felt nothing out of the way until about 5 p.m., when he was suddenly seized with a violent pain in the upper abdomen. In a few minutes he vomited once or twice, but no more after that. In a couple of hours he was a little easier, although pain still continued until about 9.30 or 10 p.m., when it became very severe.

Examination: Inspection—I found him on his back in bed, the abdomen greatly distended all over, but especially in the upper part, so much so as to appear to crowd the lungs upward so firmly as to give him little breathing space. The respirations were very hurried and costal. The face was anxious, but not the true "Facies Hypocrates"; cyanosis was marked. He was very uneasy and restless, some eructations of gas, and complained of great pain in the upper half of the abdomen. The pulse was weak and irregular, the "pulsus celer" variety. The shock (a very important feature) was profound, due, I believe, to the great pressure upon, and distortion of, the solar plexus and nerve supply of the abdomen in general. He complained of great pain in the region of the back, corresponding to the pancreas, the lower dorsal, and upper lumbar region. This latter is a distinguishing point of this trouble, which, I expect, will be fairly constant, and is not mentioned in any text-book or article that I have at hand, and should be of some value in making a differential diagnosis. The temperature was normal. Pulse irregular, 110. Patient was quite rational. Pain increased upon movement or turning.

Palpitation—Tenderness over the whole abdomen, most marked over the upper right abdominal region, but on account of the great distention and tenderness, sufficient pressure to elicit a mass of any kind could not be made.

Percussion—The whole abdomen was very tympanitic. Liver and splenic dulness were absent. Diffuse tenderness over the lumbar and lower dorsal region at back.

Auscultation—Nothing found except apparent absence of usual intestinal sounds. Heart and lungs were normal.

Urine—He passed some which contained considerable albumen, otherwise nothing of importance.

I gave him morphia to relieve the pain, and on account of the great distention and tympanitic condition, gave him repeated enemas at intervals, thinking that I could relieve some of the distention and distress by the removal of the intestinal contents and flatus, but with no result except the return of the enema. The morphia relieved him somewhat, and at times without it he seemed a little easier, but on account of the serious condition of the patient, and the unusual picture before me, and

not being able to satisfy myself with a diagnosis of any of the more common troubles in the abdomen, I stayed and watched him practically all night. Early in the morning I called up Drs. Cockburn and Bauer, and told them I had something unusual on which I would like their opinion. They met me in consultation at 10 a.m. Patient was up and dressed, and while much distressed could sit in a chair possibly more comfortably than he could lie down. They went over him carefully, and found the condition before described. The conclusion arrived at was, that it was acute pancreatic hemorrhage, and if not that, probably rupture of a duodenal ulcer. The patient was told of the seriousness of his trouble, and advised to go to the hospital and have an immediate laparotomy to remedy, if possible, his condition. He wished first to attend to his business affairs, and, moreover, was averse to any operative procedure. As he did not improve he finally went, and, later on, consented to operation, which, owing to these reasons, was not done until 6 p.m., by which time his condition had become alarming, Pulse very weak and irregular, breathing very superficial, costal and hurried, with abdomen greatly distended. Temperature 101. Light delirium. Chloroform was used as the anesthetic, and administered by Dr. Gilrie. Drs. Cockburn, Bauer and myself, operated. An incision to the right of the umbilicus and upward a considerable distance, and later extended each way. As soon as the abdomen was opened the intestines were forced out and the abdominal cavity was found filled with a bloody serous fluid, upon which floated apparent fat globules. No peritonitis was present, but areas of fat necrosis, from the size of a pin head to larger than a split pea, were present upon the peritoneum, omentum, and especially on the transverse mesocolon, in fact, anywhere over the abdomen where any fatty tissue was present. The pancreas was very much enlarged and swollen, and practically disorganized with an enormous amount of blood in the retroperitoneal tissue. The gall-bladder was examined and found normal. The abdominal organs were so distorted and so much damage had been done, that after as much fluid as possible was removed, the abdomen was closed. Considerable relief was given by the evacuation of the fluid, but the patient died fourteen and a half hours afterwards.

Post-mortem Examination—The abdomen was filled with the fluid mentioned. The areas of fat necrosis described were present in abundance. A gall-stone the size of a cherry was found in the cystic duct at its junction with the common duct. I may mention here that gall-stones have a place in the etiology of this disease which will be mentioned later. Enormous masses of blood were found in the retroperitoneal tissue follow-

ing around behind the ascending colon, with a large clot deposited behind the cecum, and also in the perinephritic tissue, it appeared to follow the attachments of the mesentery and mesocolon. The pouring out of these enormous amounts of blood behind, and pushing forward the intestines and crowding upward the lungs, was the cause of the great distention of the abdomen, the difficult and costal breathing, and the cyanosis. The kidneys, appendix and all other organs were normal. The pancreas was six or seven times its normal size, the head a large indurated mass and the body torn and disorganized. A smear for bacteriological examination from the pancreas was taken, but we had only one sterile tube in our possession, and this, unfortunately, got destroyed, thus we were deprived of the bacteriological knowledge to be obtained.

Pathology—The gland was swollen, congested and enlarged five or six times its normal size. It was torn and damaged. The head was enlarged, hard and indurated. The blood and escaped ferments had dissected and penetrated the gland substance. The lobules and acini destroyed in parts and replaced by areas of necrosis, in which were seen at the margins of the necrotic areas deposits of blood cells and pigment polynuclear leucocytes and fibrin. Necrosed, disintegrated, columnar epithelium lined the minute ducts, as also was the condition of the columnar cells lining the acini. Normally these columnar cells of the acini show an outer homogeneous or faintly striated portion, which becomes deeply stained with dye, and contains the nucleus and an inner granular portion, which does not easily stain. In this case these cells would not stain as usual, showing the fatty necrosis. The islands of Langerhans are not so susceptible to the corroding action. You will pardon my introducing this point here, but it is interesting. The Islands of Langerhans originate through a proliferation and differentiation of the cells of the primitive secreting tubules, and Opie has shown that a certain proportion of cases of pancreatic diabetes have a definite relation to lesions of the islands of Langerhans. These observations have been confirmed by German and American investigators that these islands have a physiology distinct from the remainder of the pancreas, and concerned especially in carbohydrate metabolism and, therefore, of prime importance in the pathology of diabetes.

The Pancreas: The Neglected Gland—Of the medical and surgical diseases of this most important organ and their treatment our knowledge is in its infancy, but the eyes of the profession the world over are being turned in its direction. Operative interference for disease of the pancreas is still at the present time the most incomplete chapter in the realm of surgery. It is scarcely twenty years since Gausenbauer

described the first operation for cysts of the pancreas, and for many years the surgery of this organ was confined to the treatment of this affection, which was a comparatively easy task so far as the technique was concerned. In regard to the other pancreatic affections, it is only in the last ten years that surgical treatment has been seriously undertaken. Even as late as 1891 and 1892 the anatomists, Von Gerlach and Joessel, dismissed the subject of the topographical anatomy of the pancreas in a few words, stating that the organ had no clinical interest as it was almost impossible for the surgeon to reach it.

Among further reasons for our lack of knowledge in this subject, with the exception of the cystic condition, it is seldom with our present knowledge that we have an opportunity to operate upon a diseased pancreas, hence the personal experience of each surgeon is small. Two additional reasons for the non-development of pancreatic surgery is its anatomical position, surrounded firmly and intricately by such important viscera, vessels and nerves, and, moreover, the present difficulty of diagnosis, so often not made until the post-mortem examination.

A third reason is that operation upon the pancreas is more dangerous than upon any other abdominal organ, and this is added to by the usually low condition of the patient. A still further danger lies in the peculiar physiological character of the gland itself. Two points of consideration here are: (1) On account of the richness of the gland in blood vessels we get severe and protracted hemorrhage, difficult to control. (2) By the escape of the pancreatic secretion from the injured parenchyma of the gland into the gland itself and the abdominal cavity, it causes a most damaging effect upon the gland and upon the abdominal contents by the action of the escaped ferments, principally the action of steapsin upon fat causing fat necrosis, and thus a breeding ground for bacteria, and also preventing the formation of adhesions so desired by the surgeon in confining an infection.

I will give a brief résumé of the disease, its etiology, symptoms, diagnosis and treatment as we know it to-day. In no article or text-book I have read can I find any exhaustive article putting it on a standard medical and surgical basis as other diseases.

It is difficult to separate the purely hemorrhagic and that in which the hemorrhage is preceded by inflammation varying in degree.

Etiology—The disease is most commonly found in the middle-aged with a preponderance of males, although McPhedran reports a case in a nine months' child. The victims are usually the subjects of obesity and often addicted to alcohol,

and have a history of occasional colicky pain accompanied by eructations of gas, and may possibly give a history of gall-stone colic. Further causes are a hemorrhagic diathesis, alcoholism, arterio sclerosis, syphilis, fatty degeneration of the organ in obesity, traumatism, embolism and thrombosis. From the two latter a small area of necrosis is caused, and thus destruction of the parenchymatous cells, causing an infiltration of this area with the pancreatic ferments, the increased undermining of the tissue and a further hemorrhage. The corroding action of the bacteria coming from the blood, duodenum, or bile passages or vessels, or neighboring organs, in the ducts allows the escape of these fat-splitting ferments with the same action as above, the amount of damage done depending upon the resistance of the vessels in the interstitial connective tissue. In infection from cholangitis and cholelithiasis the infection travels from the bile duct through the ampulla vateri in a backward direction to the pancreatic duct. Opie has established the fact that a gall-stone can be caught in the ampulla Vateri, and can produce a retrograde flow of infectious bile into the ductus pancreaticus. Malignant growths, cysts, etc., are further causes.

Symptoms—One of the characteristic features is the sudden onset, usually with violent colicky pain in the upper abdomen, nausea and vomiting. The abdomen becomes distended and tympanitic, and there is usually constipation. There is tenderness over the whole abdomen, particularly the upper. The temperature at first is low, often sub-normal, but later rises. The extremities are cold, cyanosis is usually marked, breathing is hurried and costal. The shock is usually intense on account of the pressure on the solar plexus and nerve supply of the abdomen in general. This shock is a prominent feature in the disease. There is great pain and tenderness in the back in the area corresponding to the pancreas, *i.e.*, the upper lumbar and lower dorsal region. This, as I said before, is, I think, a distinguishing feature in this disease not often mentioned. Fitz's rule might be repeated here: "Acute pancreatitis is to be suspected when a previously healthy person, or sufferer from occasional attacks of indigestion, is suddenly seized with a violent pain in the epigastrium followed by vomiting and collapse, and in the course of twenty-four hours by a circumscribed swelling, tympanitic or resistant, with a slight rise of temperature."

Differential Diagnosis—The three principal conditions from which it is to be differentiated are:

1. Perforation of gastric or duodenal ulcer.
2. Intestinal obstruction high up.
3. Acute perforative appendicitis.

With regard to the first, *i.e.*, the ulcer, there will have been

most likely premonitory symptoms of the disease, including pain on eating, tender stomach for some time preceding, hematemesis, black or coffee-ground stools and anemia, and rather than the fat, robust person in pancreatitis we will have a more emaciated subject.

With regard to the second, intestinal obstruction, in this the vomiting is more persistent, frequent and likely fecal. The onset is not so sudden; the shock is not so profound and not so early. Cyanosis is not so marked, breathing not nearly so interfered with, and tenesmus is often present. Passing of fecal matter and faltus is soon at an end, blood and mucus is often passed. The pain is more in keeping with the peristaltic action of the bowels, and, moreover, the mass of obstruction can often be palpated and defined.

With regard to the latter, *i.e.*, perforative appendicitis, this can usually be detected by evidence to be found in the region of the cecum.

As regards the urinary examination, our knowledge at the present time is too meagre to say that any constituents are prominent or constant enough to aid much in the diagnosis. Glycosuria is said to appear early in the trouble, but in small quantities, and a little later disappears. Undigested fat and muscle fibre in the stools is said to be fairly constant and may be of some aid.

The Pathology—Fitz divides pancreatitis pathologically into (1) hemorrhagic, (2) suppurative and gangrenous. Robson makes a preferable classification clinically into (1) acute, (2) sub-acute, (3) chronic pancreatitis.

The traumatism, eroding action of bacteria upon vessels or ducts, arterio sclerosis, fatty degeneration and syphilitic degeneration cause the escape of blood and the pancreatic ferments into the gland substance. If the injury or hemorrhage is not already severe enough, these cause areas of cell necrosis, and the increasing disintegration of the gland. At the margin of the necrotic area are accumulations of inflammatory products, red blood corpuscles some broken down with deposits of pigment, polynuclear leucocytes and fibrin with the lobules and acini of the gland destroyed.

The Treatment—The treatment of the disease, if at all of any extent, is surgical: opening the abdomen and packing to protect the abdominal cavity, flushing out abdomen if necessary, gauze tampons to control the troublesome and persistent hemorrhage and to have free drainage. Whenever possible drainage by lumbar incision should be made also. Mikulicz states that severe injuries of the pancreas, which are not submitted to operation, terminate fatally almost without exception, and that an exploratory laparotomy should be made

whenever there is a question of severe pancreatic hemorrhage. Woolsey, of New York, has operated with success upon three cases of pancreatitis. Bunge, of Konigsberg, who has demonstrated, as also has Opie, that pancreatic hemorrhage and fat necrosis are caused by the injection of air, paraffin, and especially oil, into the pancreatic arteries, also advises immediate operation. Experience has taught us, and the reason for operation may be summed up in this way, and the surgeon should bear in mind these facts:

1. The very slight tendency of pancreatic hemorrhage to stop spontaneously.

2. The locally destructive and general toxic action of the pancreatic ferments set free by the inflammatory and hemorrhagic process.

3. When the symptoms are at all severe the course is clear. The only rational therapy is to open the focus with the knife and drain the toxic and infectious exudate.

4. Because it is only likely to be mistaken for conditions also requiring early operation.

5. The patient is in a much better condition now to stand an operation than when weakened by suppuration and necrosis, which almost inevitably follow.

HAMILTON, ONTARIO.

FORTY YEARS AND AFTER—A REPLY TO DR. OSLER.*

BY JOHN FERGUSON, M.A., M.D.,
Senior Physician Toronto Western Hospital.

A short time ago I was asked by the President to read a paper on Dr. Osler's recent address at Johns Hopkins University. At first I declined, stating that some older and more experienced member should be chosen for the discharge of so important a task. The request was, however, renewed, and this is my excuse for appearing before you on this occasion.

I.—Dr. Osler's Position.

"I have two fixed ideas well known to my friends. The first is the comparative uselessness of men above forty years. This may seem shocking, and yet, read aright, the world's history bears out the statement. Take the sum of human achievement in action, in science, in art, in literature, subtract the work of the men above forty, and while we should miss great treasures—even priceless treasures—we would practically be where we are to-day.

"It is difficult to name a great and far-reaching conquest of the mind which has not been given to the world by a man on whose back the sun was still shining. The effective, moving, vitalizing work of the world is done between the ages of twenty-five and forty, those fifteen golden years of plenty, the anabolic or constructive period, in which there is always a balance in the mental bank, and the credit is still good.

"In the science and art of medicine there has not been an advance of the first rank which has not been initiated by young, or comparatively young, men. Vesalius, Harvey, Hunter Bichat, Laennec, Virchow, Lister, Koch—the green years were yet upon their heads when their epoch-making studies were made. To modify an old saying, a man is sane morally at thirty, rich mentally at forty, wise spiritually at fifty, or never. The young men should be encouraged, and afforded every possible chance to show what is in them.

"My second fixed idea is the uselessness of men above sixty years of age, and the incalculable benefit it would be in commercial, political and professional life, if, as a matter of course, men stopped work at this age. In that charming novel, 'The Fixed Period,' Anthony Trollope discusses the practical advan-

* Read at the Toronto Medical Society, 16th March, 1905.

tages in modern life of a return to this ancient usage, and the plot hinges on the admirable scheme of a college into which at sixty, men retired for a year of contemplation before a peaceful departure by chloroform.

"As it can be maintained that all the great advances have come from men under forty, so the history of the world shows that a very large proportion of the evils may be traced to the sexagenarians, nearly all the great mistakes, politically and socially, all of the worst poems, most of the bad pictures, a majority of the bad novels, not a few of the bad sermons and speeches."

Subsequently, Dr. Osler remarked as follows:

"Nothing in the criticism has shaken my conviction that the telling work of the world has been done, and is done, by men under forty years of age. The exceptions which have been given only illustrate the rule.

"It would be for the general good if men at sixty were relieved from active work. We would miss the energies of some younger-old men, but on the whole it would be of greatest service to the sexagenarians themselves.

"I said that man's best work was done before forty, and at sixty he should retire."

"No man ought to think of writing a book until he is forty. Up to that time he should be engaged upon other and more important things, creating what he intends to write about. That's the way it was with me. I was too busy at forty to write."

"Take Darwin as an instance. His greatest work was done when he was a young man exploring South America."

II.—Opinions Regarding Dr. Osler's Views.

The London *Globe* remarks that "Dr. Osler's views are disproved by the patent fact that a very large proportion of the men who are doing the best work in the world to-day are over sixty years of age."

The *St. James' Gazette* says: "We know several men over sixty who will refuse to discuss it, yet five years offer such an opportunity for argument that Dr. Osler may be able in 1910 to die a martyr to his own cause."

President James B. Angell, of the University of Michigan, does not subscribe to the statement that men lose their usefulness when they reach the age of sixty years.

Dr. Henry M. Hurd, President of Johns Hopkins University, says:

"It was natural that in making an excuse for leaving Johns Hopkins and going to Oxford he should say that he felt that

his work for the university had been finished, and that some one should come to take his place—but there he should have stopped.

"I have known Dr. Osler so long that I have become accustomed to his views. When I first met him some sixteen years ago I was not in the first blush of youth. At that time Dr. Osler was not quite forty, and he said that he thought a man's work should cease at forty. After a few years he said no man should attempt to do anything after he had reached fifty. Now that he has passed fifty he says that sixty is the limit, and I venture to say that within a few years he will declare that seventy is not a bad time to quit.

"Many of us feel that the address was unfortunate. It is safe to say that when man reaches the limit, and not until then, he advertises the fact by poor work."

> "Cato learned Greek at eighty, Sophocles
> Wrote his grand 'Œdipus' and Simonides
> Bore off the prize of verse from his compeers
> When each had numbered more than fourscore years.
> And Theophratus, at fourscore and ten,
> Had but begun his 'Characters of Men.'
> Chaucer, at Woodstock, with his nightingales,
> At sixty wrote the 'Canterbury Tales.'
> Goethe, at Weimar, toiling to the last,
> Completed 'Faust' when eighty years had passed.
> Something remains for us to do or dare;
> Even the oldest tree some fruit may bear,
> For age is opportunity no less
> Than youth itself, though in another dress."

In this fashion did Longfellow anticipate and refute the paradox put forward that men should be laid upon the shelf at the age of sixty.

S. E. Kiser, in the *Chicago Record*, among other things says:

> "There's poor old Tolstoi; how unwise and mean his actions are
> Compared with those of Nicholas, the glorious young Czar!
> How grand the world might be to-day if Gladstone, Tennyson,
> Grim Bismarck and great Hugo all had died at forty-one!"

Lord Macaulay said in the House of Commons in 1841: "It is the law of our nature that the mind shall attain its full power by slow degrees; and this is especially true of the most vigorous minds. It would be impossible to name any writer of the first order whose juvenile performances were his best. That all the most valuable books of history, of philology, of physical and metaphysical science, of divinity, of political economy, have been produced by men of mature years, will hardly be disputed. The case may not be quite so clear as respects works of the imagination. And yet I know no work of the imagination of

the very highest class that was ever, in any age or country, produced by a man under thirty-five. Whatsoever powers a youth may have received from nature, it is impossible that his taste and judgment can be ripe, that his mind can be richly stored with images, that he can have observed the vicissitude of life, that he can have studied the nicer shades of character. On the whole, I believe that I may, without fear of contradiction, affirm this, that of the good books now extant in the world more than nineteen-twentieths were published after the writers had attained the age of forty."

The *British Medical Journal* of recent date editorially remarks: "Professor Osler's statement that all the best intellectual work is done by men under forty is not by any means borne out by facts. To Dr. Osler's dogmatic assertion we oppose the above equally positive statement by Macaulay, an oracle of at least equal authority. This is in accord with the fact—which can scarcely be denied except by those who love paradox more than sober truth—that the intellectual powers do not reach the stable equilibrium of full and harmonious development till the age of forty or even later."

Victor Hugo, no mean mind, said that "Forty was the old age of youth and fifty the youth of old age."

The *Medical Age* makes the following comment on the matter: "If Professor Osler cannot give us a 'de Senectute' gospel more elevating than that which would decree the old man's insufficiency to be measured by Dr. Osler's conceptions of utility, he had better not have delivered his message."

While making the above quotations I am not forgetful of the fact that Goethe said we get no new ideas after forty, and that Vierordt says the brain attains its maximum weight at twenty. But it should be borne in mind that Goethe's whole life disproved his own theory, and that there is a vast difference between brain weight and brain development.

III.—Scientifically Considered.

It must, of course, be conceded to Dr. Osler that as no one can live on indefinitely, a period of decline of intellectual and artistic power must sooner or later set in. His error is in fixing the meridian of creative life too early. If he will give this matter more attention from the pathological standpoint, and cease to depend on statistics which may appear to prove anything while establishing nothing, he will probably add ten or even twenty years to the span of creative activity; he may even see cause to prolong it to the proverbial threescore and ten. It is not safe to set definite limits to the capacity for development. That of the mind may go on long after the body has

ceased to grow, and may still go on while the physical powers are in steady decline. The objects that interest the artist may vary, and his point of view and method of treatment may change, but all this is quite compatible with increasing excellence of artistic product till a period of life far beyond the limit arbitrarily and hurtfully set by Dr. Osler.

The truth probably is that whatever decay in creative power becomes a noticeable concomitant of advancing age is due not to the advance of age so much as to wrong habits of life. Dr. Osler, as a pathologist, knows perfectly well that the vast majority of people, even those who think themselves all right, are in a pathological, not a physiogical, condition. So long as they injure themselves by over-indulging in eating, drinking, sleeping and the use of stimulants and narcotics, it is mischievously unfair to attribute to the infirmity of age the decay that is really due to suicidal practices. The wonder in regard to most persons should be not that they survive with decaying powers, but that they survive at all. For those who persist in living to eat, drinking to enjoy, sleeping to enervate and using whiskey or tobacco to exhilarate or narcotize, curtailment of creative power is inevitable at any age, and if the impairment becomes more noticeable after the meridian of life is past, that is largely because the mischievous habits have been longer practiced. Some constitutions can stand more bad treatment than others, but none can escape a check in development, even though loss of power may not be positively predicable.

Dr. Osler is much too careful a scientist to seriously pretend that age is the true measure of existence. The standard is arbitrary, and to group men according to the number of years they have been in the world is no more scientific than to group them according to their weight, or their height, or to reckon the world's progress by centuries. Doctors themselves discovered this long ago, and set up the arterial standard. "Man is as old as his arteries," they said. In our everyday wisdom we have the proverb, "A man is as old as he feels, a woman as old as she looks." We hear much about "young old men," and "old young men," paradoxes well understood. Dr. Osler is aware of this, and also of the famous poetical passage which tells us that life is not measured by years, but by deeds and thoughts, and aspirations. This is sound science and good poetry.

But it seems to us that the radical fallacy of Dr. Osler's doctrine is shown by something that he looks upon as confirming it. He holds that up to the age of forty a man should devote himself to acquiring knowledge as to matters of fact, and that not until after that age should he attempt to generalize. Observation, then, according to him, is the proper pursuit of a man at the height of his powers, while deduction

is allowable only when he has begun to degenerate; in other words, the acquisition of knowledge calls for mental powers superior to those that suffice for systematizing that knowledge and employing it as a basis for teaching and for the formation of theories. The senses, in other words, are higher than the intellect. There are some of us who think it a higher intellectual function to make the best possible use of recorded observations than to do actual laboratory work. From this point of view and from that of their tendency to discourage middle-aged men, we think that some of his remarks are to be regretted.

It is a well-known fact that the mind and the body do not always develop simultaneously. Nestor complained that the gods do not bestow the wisdom of years until they have withdrawn the vigor of youth. Along this line there are many exceptions, however, that in a hundred examples, probably forty-five would contradict the evidence offered by the other fifty-five. We can well imagine some one urging that 51 per cent. constitutes a rule, and that 49 per cent. must be reckoned as an exception. Failing to dislodge him from this position, we might be obliged to admit that fifty-one out of every hundred men are declining at forty and becoming of reduced economical use at sixty.

There are marked differences as to the age at which people attain their mental development. Gladstone, Carlyle, Weierstrass are instances of the highest types of mental development coming late. They ripened slowly, but remained at their prime a long time. The meaning of this is plain. Some men are at their best at thirty, some at forty, some at fifty, some at sixty and over. And it is not hard to find a reason for this. The laws of heredity and the environments of any person make for great differences in his vigor, development and longevity. Social conditions also play an important role in a man's life-history. Furthermore, we must not forget the remarkable influence of opportunity or circumstances. The country churchyard may contain mute Miltons and unknown Cromwells. Oyama's day came because of Russia's wrongful aggressiveness. So in the world of arts, science and letters the finest fruits may not be borne until late in the autumn, because, figuratively, of an unfavorable spring or summer.

IV.—Practically Considered.

There is one aspect of Dr. Osler's address that merits attention and praise, namely, the credit he gives young men for what they are doing and the encouragement thrown out by him to inspire them to even greater achievements. He has always been

pre-eminently the young man's friend, and has done much to discover and bring forward many a bright young man. In this regard Dr. Osler's work will remain a precious legacy long after he has gone. A man's influence over others is sometimes of far greater moment than anything he may actually do himself.

With regard to old men, however, the case is different. There are hundreds of thousands of men in America at and beyond the sixty year period who are still in active life and forced to remain there by inexorable circumstances. Many of them have to fight to keep their place in the ranks and prevent themselves from being crushed to the wall. They feel that it is a cruel fate that requires even greater exertion of them at a time when they are less able than in early manhood to work. Several men of this class, reading the distorted view presented by Dr. Osler's words, have committed suicide, the connection between their action and the doctor's address being shown by press clippings. Such a case was that of an aged scientist in St. Louis recently, who chloroformed himself after discussing the whole question of the uselessness of old men. Dr. Osler would, we feel sure, be the last person in the world to make more difficult the task of the old man in factory and workshop or at the clerk's desk toiling for bread for himself and his loved ones. We cannot all retire at sixty. Wisdom comes with age. The old man has earned the right to continue to earn his living. An opinion coming from a physician of such high standing as Dr. Osler is bound to carry much weight with it.

Since David wrote the Psalms the world has passed through the greatest struggles for existence in its history, and every day the struggle is growing more intense. Medical science may be able to lengthen a man's years, but industrial competition is surely pushing the hands of the clock ahead on the dial of a man's career. The men who, like Gladstone, develop late in life, find the struggle fiercest in their youth; the men who develop early, and these are a majority, find it in advancing years. In this respect it may be that Dr. Osler's words have done much harm; for while he spoke as a humanitarian that men of sixty should retire, it may only have the effect of making it still more difficult for the old man to keep his place in the stern struggle for an existence, and thereby add another burden to those brought to him already by reason of his years.

V.—Historically Considered.

The world will ever marvel at the remembrance of Gladstone's fight for Home Rule in Ireland after he had passed eighty, of von Moltke's crushing victories against Austria when he was a sexagenarian, and against France when he was a

septuagenarian. Bismarck was fifty-two when he organized the North German Confederation, fifty-six when he saw its culmination of success with the crowning of the King of Prussia as German Emperor, and seventy-five when he resigned the reins of power.

Johan Kepler was fifty-nine years of age when he announced his discovery of the distance from the planets to the sun; Bacon was fifty-nine when he published "Novum Organum"; Gassendi was fifty-eight years old when he published his atomic theory, and Newton was forty-four when he published his law of gravitation, and older when he wrote his Principia.

Dealing with the rather surprising claim that if the work of men more than forty was subtracted from the world's record we should be practically where we are, let us give a few contradictory examples. Among statesmen, Gladstone, Bismarck, Palmerston, Salisbury, Chamberlain, Burke, Chatham, Washington, Peel, Grey, Lincoln, and Sir John Macdonald were more than forty when their greatest work was done. Cæsar, Cromwell, von Moltke, Lee, Grant, Marlborough, Nelson, Wellington, Blucher, Farragut, Roberts, Campbell, Kitchener, Nogi, Kuroki, Togo, Nodzu and Oyama are warriors in this category. The same is true of Shakespeare, Milton, Goethe, Carlyle, Dryden, Scott, Voltaire, Flaubert, Newman, Macaulay, Gibbon, Tennyson and Hallam among great writers; while among scientists we might name Spencer, Darwin, Newton, Jenner, Faraday, Avebury, Galileo, Tycho Brahe, Fulton, Kepler, Brewster, Copernicus, Huxley, Humboldt and Kelvin as falling beyond the comparatively useless line. Columbus was fifty-six years old when he discovered this continent, and Washington fifty-seven when he became President. Captain James C. Cook met with an untimely death at the age of fifty-one while conducting his third voyage of discovery among the Pacific Islands.

If we may accept Scriptural testimony in a purely scientific discussion, we know that in the days of the prophets there were many men who lived to an extreme old age, and whose natural strength was not abated. Some thousands of years later, the Psalmist said, "The years of a man's life are threescore and ten." We have some reason to understand that he meant the useful years. At the present moment great events are transpiring in the Far East. The leaders of Japan, the Emperor, Marquis Ito, Admirals Togo and Kamimura, Marshal Oyama, and Generals Nogi, Kuroki and Nodzu, nine in all, average sixty-one years. These men are brilliant in a very high degree, both in initiating plans and in carrying them to successful completion.

We do not believe that Dr. Osler is correct in this matter, and are quite sure that the examples of the medical men he

adduced as illustrating the tenability of his position do not bear him out in the least. When we recall the tremendous importance commonly attached to the work done by Virchow up almost to the very end of his long life, we cannot admit that it illustrates such a belief. As for Bichat, it is true that he did his work while he was young, for at thirty-one he died, and we shall never know what he might have accomplished had he lived to old age. Harvey was born in 1578 and published his work, "Exercitatio de Motu Cordis et Sanguinis," in 1628 when he was fifty years old. Lister was born in 1827, and was close on to fifty years of age when he began to convert the medical world to the principles of antiseptic surgery; and while Koch was born in 1843, and was within one year of forty when he discovered the tubercle bacillus, even the least appreciative of his admirers will admit that he has done some good work since 1882.

Darwin published his "Origin of Species" at fifty, and his work on moulds at seventy-two, the year before his death. John Hunter was sixty-five when he died. He rose from a meeting in St. George's Hospital and died suddenly of angina, from which he had suffered for twenty years. The last twenty years of his life were very active ones. All these added to the sum of human achievement long after they had passed the dead line of forty years old. Dr. Osler published his first medical book when he was forty years old, and Dr. George M. Gould, the accomplished editor of *American Medicine*, did not enter the medical ranks until he was forty years of age. Andreas Vasalius died at fifty; thus his brilliant career was cut short, and much that he might have done has been lost to the world. His great work, however, was accomplished in his last ten years. Laennec, the distinguished physician, pathologist, anatomist and inventor of the stethoscope, died at the young age of forty-five. And after death "no man worketh."

It is difficult to try to refute by statistics of greatness or of genius that he is wrong, because when examples of the manifestation of artistic power in advanced age are cited it is open to him to answer, at least plausibly, that the exception proves the rule. In spite of the multiplication of such instances he may still be able to assert that for all practical purposes the creative activity belongs to the period before forty, even when its manifestations are delayed till after that period of life.

One rejoinder to this would be that in case of the great poets like Shakespeare, Goethe, Browning and Tennyson—and poetry is perhaps the supreme criterion by which to test the theory—their best work was not done before forty, but after it, and that it continued to improve as to the higher qualities so long as they continued to write. No competent critic would

postpone Shakespeare's "Tempest," written when he was nearly fifty, to any of his earlier productions as a work of creative genius; or prefer "Locksley Hall" to "Locksley Hall Sixty Years After." Shakespeare, greatest of all literary artists, voluntarily ceased writing at forty-nine; but there is no reason to doubt his work would have continued to improve with experience and practice if he had chosen to continue it for another twenty years of healthful life. The same statement, *mutatis mutandis*, would hold good of the great historians, the great scientists, and the great philosophers. In short, it is impossible for Dr. Osler to establish by any induction, however wide, that his theory is even presumptively sound. Longfellow when old wrote his "Morituri Salutamus," from which we have quoted and which is regarded as equal in merit and popularity to anything he wrote in his youth. The greatest of all Browning's poems, "The Ring and the Book," was published when he was in the sixth decade, and some of his most characteristic verse was produced in his eighth. Tennyson's rich and tender insight into the spiritual life of the soul was with him still as an octogenarian, notably in that exquisite lyric, "Crossing the Bar," in that wonderful dramatic idyl, "Rizpah." Then there is Milton at sixty completing his "Paradise." If Carlyle had died at forty, we would only have some essays and "Sartor Resartus" to know him by, as most of his essays, "Heroes and Hero Worship," "The French Revolution," "Cromwell," "Frederick the Great," and "Past and Present" were written between forty-five and seventy.

Dr. Johnson conducted the Rambler, the Adventurer, and the Idler from the fiftieth to the sixtieth year of age. His dictionary was published when fifty-five, a phenomenal task in his day; when seventy-five he made his trip to the Hebrides, and when seventy-seven published his master-work, "The Lives of British Poets." Adam Smith gave to the world his "Wealth of Nations" when fifty-three, and continued for many years to do excellent work.

Kant began the study of his immortal work, the "Kritik der reinen Vernunft," when fifty, and published it when fifty-seven. He brought out a second edition when sixty-three.

John Locke, the physician philosopher, wrote his essay on the Human Understanding between fifty and fifty-eight.

The two physicians and the three surgeons who attended the King when operated upon for his attack of appendicitis varied in age from fifty to seventy-five, averaging over fifty-eight, and were all actively engaged in professional or state duties.

Lord Howard, Sir Francis Drake, Sir John Hawkins, Sir Martin Frobisher, Sir Walter Raleigh, and Sir Richard Grenville, the six men who commanded the English fleet against

the Spanish Armada, varied in age from thirty-six to sixty-eight, making an average of fifty-one. They all continued to render great services to their country for many years afterwards.

But why extend the list of names? Such works as the Encyclopedia Britannica, Dictionaries of Biography, "The English Men of Letters" series, "The Eminent Statesmen" series, Plutarch's Lives, etc., yield not hundreds but thousands of instances of men at fifty, sixty, seventy, and even eighty, performing great tasks and doing splendid work.

I have examined somewhat carefully the achievements of about 500 distinguished poets, historians, critics, mathematicians, scientists, explorers, warriors, statesmen, inventors, orators of many countries and of different periods from the dawn of history down to the present, and find that about seventy-five per cent. of their best work was given to the world after forty years of age. In coming to this conclusion I take it that the mental operations of Galileo, Brahe and Kepler on the laws of astronomy, of Kant in writing his Kritik, of Smith in composing his "Wealth of Nations," of Wellington at Waterloo, of Kelvin in laying the Atlantic Cable, of Roberts in South Africa, of Salisbury as Premier of Britain, of Darwin formulating the origin of species, of Pasteur in his laboratory, of Lister preaching antiseptic surgery, of Treves at the bedside of the King, are not less important or valuable than their studies and trainings which laid the foundation for these achievements; and I think the consensus of opinion is with me.

Selected Articles.

THE COMBINED TREATMENT IN DISEASE OF THE EYE, ESPECIALLY IN THAT OF THE UVEAL TRACT.

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Professor of Ophthalmology and Otology, at the University of Toronto, etc.

My remarks will be directed to the treatment of various diseases of the eye, and but incidentally to other conditions. By my combined treatment I mean the internal administration of mercury and the iodid of potassium associated with the hypodermic injection of pilocarpin.

The details of this treatment have been given in previously published articles, and hence are not going to be referred to in this paper. Moreover, let me mention that I have been using, and most closely observing the effects of, this treatment for a full fifteen years.

The reason of the radical nature of its influence appears to be as follows: It stimulates the nerve centres to a remarkable degree, and through them the ordinary physiologic processes of the affected part or parts especially are aroused to an activity far in excess of the normal, and thus the diseased condition is acted upon and removed. And, moreover, this hyperactivity can be regulated and sustained for years if necessary by the manner in which the combined treatment is administered.

I shall now place before you a certain number of clinical facts for your consideration, and shall begin by giving succinctly an account of two cases of sympathetic ophthalmia in quite different stages of the disease. In September, 1900, I read a paper before the Canadian Medical Association at Ottawa upon the successful treatment of one case of very severe sclero-keratitis in a patient with a tuberculous history, and of another of acute sympathetic ophthalmia. The report of this case of sympathetic ophthalmia was incomplete, and was given comparatively early in the treatment of the disease, in that I had gone far enough to warrant me in feeling that this combined treatment was capable of exercising a marked controlling and curative influence upon this disease. I shall give this case as fully as time will permit.

It is that of a boy, aged 12 years, referred to me at the time of the injury by Dr. Stevenson, Toronto, suffering from acute sympathetic ophthalmia, that is, a very severe cyclo-irido-keratitis.

When the sympathetic trouble, which showed itself rapidly and suddenly three months after the injury, was first noticed, the other eye, which had been injured by a penetrating wound extending well up into the cornea from just at the ciliary region, was excised, the date being Jan. 25, 1900.

Under atropin, the pupil became at once fully dilated. Mercury and the iodid of potassium were given. The eye at first improved. On February 2, eight days after the excision, the sympathetic inflammation plainly showed itself. I now began my combined treatment. Of the first twelve injections of pilocarpin, that is, the first two weeks, the effect was not full, though I gave as much as one-sixth of a grain at each injection. Though there was apparently no noticeable constitutional effect of the atropin, and only a very slight and temporary dryness of the throat, by careful pressure upon the canaliculi all passage of it into the throat was stopped, and then the one-tenth of a grain gave a full effect, whereas previously one-sixth of a grain did not. This latter under normal conditions is much too large a dose for a child 12 years old.

The pupil was now, at the end of three weeks, only one-third dilated, the exudation into the tissue of the iris and ciliary processes causing the narrowing to take place. The margin of the pupil was very firmly bound down, and the capsule of the lens in the pupillary area was covered with a coating of lymph.

On the 24th, four weeks since the excision, and about three weeks since the beginning of the combined treatment, another acute attack came on. There was much general infection, tension +1, severe pain, and keratitis punctata over the whole cornea; in fact, a well-developed condition of acute sympathetic cyclo-irido-keratitis. The vision was perception of light only. On February 27 the eye was quieter, tension +. On March 20 the eye was still improving and the vision was better. The combined treatment was still kept up, and the eye was doing well till March 23, when there occurred a very acute exacerbation with severe pain, the tension +1, and the vision perception of light only.

On March 31 the eye was better. Between this date—March 31—and the beginning of September, 1900, the combined treatment was used. An improvement, which was most uniform, thorough and unbroken by any symptom of relapse resulted. The sight also gradually improved till September, 1900, the vision was 10/20 less two letters. The posterior synechiæ have been almost completely removed; but the pupil is dilating very slowly, due to the exudation still present in the iris tissue. The tension is normal. Up to this time the boy had taken internally 5 grains of iodid of potassium, thrice daily, and one twenty-fourth of a grain of bichlorid of mercury. One-tenth

of a grain of pilocarpin was injected every second day after the first two weeks for five months continuously. During the remainder of the eight months, at the end of every two weeks, I have given an injection every second day for six injections. His general health is good.

This is a shortened account of the case I read September, 1900.

In this description of the case I gave no account whatever of the fundus, for I could not see its details, so hazy was it by reason of the deposit of lymph on the anterior capsule of the lens. Just after the sympathetic ophthalmia began, the optic disc showed on ophthalmic examination a normal appearance save a uniformly infected look. The media quickly becoming hazy prevented any subsequent examination till the present one.

Later on, in the autumn of 1900, my ophthalmic examination showed a fundus apparently healthy, but a very peculiar looking optic disc. However, so hampered was I by the lymph that I could make out no reliable details. Early in 1901 I got a better view of the fundus, and now was able to look at a disc unlike any I had previously seen.

The optic disc was covered by an exudate abruptly limited to it, and not extending in the slightest degree into the surrounding tissue. This exudation gave to the disc the appearance of being covered with a dense, dull, whitish deposit, *resembling closely the dull, white color of putty. The only sign* of vessels was a most minute red line, just traceable, running vertically up and down; but at the centre of the disc no trace of one. Away in the outer field close to the ciliary processes were a few spots of choroido-retinitis.

About one year later the exudate was so lessened that the larger vessels could be plainly distinguished and a few capillaries could be seen.

Again, one year later the process of removal was going on so satisfactorily that now many more vessels could be made out, and the margin of the optic disc was quite ragged looking. In the beginning of 1904 the process of removal was still being continued, and now the capillaries were becoming quite numerous and the vessels at the centre of the disc much less covered by deposit. The spots of choroido-retinitis were being removed, leaving only disturbed pigment to mark their places. Atropin, a 4-grain solution, had been uninterraptedly used from January, 1900, up to February, 1904. Then it was stopped, and the pupil contracted to one-third normal size. At first, it was a little eccentric, but later quite central and fairly active. The cornea is now quite clear, and has been so for some length of time. The anterior chamber is quite normal, and also

the tension, as it has been ever since September, 1900. The capsule of the lens still has a flaky, opaque look in places with quite clear spaces between. This exudate is still undergoing removal. There is a marked contrast between the white color of the disc and the vessels; that is, there is an absence of the natural lustre and color of the disc, though it is for all practical purposes normal as to its function. The vision is with the myopic correction of —1 sph. ⊂—.50 cyl., 20/20 or 6/6, and Ji easily and comfortably.

The mercury and the iodid of potassium have been regularly given save now and then a short intermission. The hypodermic injections of pilocarpin have been continued.

During 1901 a series of six injections was given—one every alternate day—and after an interval of two weeks was again repeated. During the year 1902 the same course was pursued, save the interval was made three weeks. In the year 1903 the interval was lengthened to four weeks. In 1904 I have given the six injections—one every day—and the interval has been six weeks. The treatment of this case of sympathetic ophthalmia is still being continued and shall be till the pupil becomes normal as to its size and activity. This may necessitate six to twelve months' longer use of the remedies.

Two months is the greatest interval that can be allowed between a series of injections; for if this be exceeded no progress is made. This is my opinion, founded upon clinical experience.

Since September, 1900, the improvement has been steady, unbroken by the faintest sign of any relapse or irritative process, and this improvement has been equally marked in every part of the eye. The boy is strong and healthy and growing rapidly.

The second case is William M., aged 49 years, who first consulted Dr. Trow, Feb. 19, 1898. I then saw him in consultation with Dr. Trow, who is a colleague of mine, at the Eye and Ear Infirmary and General Hospital, Toronto.

The left, the injured eye, was a shrunken, lost globe from an injury, July 22, 1897. On Dec. 2, 1897, the right eye became affected and was quickly highly inflamed, associated with an agonizing pain. The man said that for four days there was no p. l., then atropin was used and the eye became quieter, only again to be similarly attacked two weeks later. The sight did not again return. The condition of the eye at this consultation was p. l. very feeble, indeed, tension decidedly minus, pupil occluded and excluded and iris tissue filled with exudate.

We both looked upon the right eye as being in such a desperate state that the question of treatment seemed only a forlorn hope. However, we decided to use the combined treatment. I did not then have the same experience as I now

possess, or I am certain I should have urged the use of the treatment with good hopes of success. The treatment was energetically given from February, 1898, to October, 1898, a period of eight months. The result was that the attacks of inflammation ceased and the eye became quiet. In November an iridectomy was tried and failed. Influenza now attacked him, and he was not again under observation till February, 1899.

The condition of the eye was now so favorable that the lens was removed. In April a DeWecker's scissors operation was done, resulting in a good pupil. The optic disc was atrophic in appearance, with vessels smaller than normal. After the operation the man returned home, a distance of 1,500 miles, and was not again seen till August, 1900, a period of fifteen months. During a greater part of this time he took strychnin internally. In September, 1900, the vision of the right eye was with + 11 sph. ⌒ + 250 cyl. ax. 110 = 20/30 and on adding +3 sp. was Ji easily.

In June, 1904, that is, almost four years since the above date, in a letter received from him written by himself, he says his vision is in every way as good as in September, 1900.

Now, with your permission, I shall give most briefly the history of a few test cases of other diseases of the eye in which it has been used.

A man, aged 45 years, who consulted me, was almost a cripple from chronic articular rheumatism; vision of each eye very poor; a most marked and broad calcareous band stretching almost completely across the cornea of each eye. He had been under treatment for several years, with the most approved of methods, without any avail, when he consulted me for the first time in 1890. Under my combined treatment, at the end of four years his condition was as follows: So complete a disappearance of the rheumatism that he could run up and down long ladders with security and ease; a slight nebulous haze of each cornea had taken the place of the calcareous degeneration; the vision was 20/50, and he could read with ease, whereas at the beginning he could not read at all. To-day, ten years later, his condition is equally as satisfactory, and no relapses have occurred.

Another man, a case of acquired syphilitic-cyclo-iritis of one year's duration, had been under treatment with atropin drops, mercury and the iodid of potassium, which had apparently exercised no curative effect; for the condition of each eye was as follows: Vision counting fingers only; constantly recurring attacks of inflammation, the exudate most copious, giving a pupil almost occluded and excluded and the lymph apparently well organized. One and one half years of the use of the combined treatment resulted as follows: Vision of one eye, 6/12, or

20/40, and of the other, 6/6, or 20/20. And, moreover, during this time no relapses had occurred.

In cases of hypopyon-kerato-iritis of the worst type, that is, with a large central ulcer, pus in the anterior chamber up to a level with the lower pupillary margin, and the pupillary margin well bound down with lymph, the use of the combined treatment has resulted in the complete recovery of the eye, with only a slight corneal haze to mark the position of the ulcer, and the pupil fully dilated and free of lymph.

I was once asked to see a case of iritis in a hospital patient who was suffering from a typical, diffuse scleroderma. This skin disease had been treated in every possible way for five years or more in various hospitals in the United States, with no beneficial effect. When I began my treatment he lay in bed stiff from his head to his feet, a most typical specimen of the advanced disease. Under the combined treatment for one and one-half years there was a most marked improvement, so that he was able to walk and use hands fairly well. He was discharged through unruly conduct and lost sight of. Also, it has acted beneficially in several forms of eczema, which were present in patients whose eyes were undergoing this treatment.

In a case of albuminuric neuroretinitis in a woman but lately confined, where the urine was scanty and almost all albuminous and the head pains severe, its use resulted as follows. At the end of three weeks a normal amount of urine was passed with a very small percentage of albumin, and a cessation of the headaches and a decided lessening of the neuroretinitis. The woman felt so well that she went home. The physician who called me in was very gratified; but when I wished to continue the treatment so as to produce a permanent effect by means of tissue change, he did not second my efforts. To him the relief was all that could be looked for or desired. This opinion of physicians can not be wondered at, when, in a well-known book upon the eye, there is a sentence as follows in regard to inflammation of the vitreous: "As in other vitreous changes, if the general condition permits it, a sweat cure may be tried, either by means of a Turkish bath or with jaborandi." In answer to this I beg to say that between the Turkish bath and the combined treatment there is no semblance in effect whatsoever. It shows most pointedly that the true action of the combined treatment had not been grasped; for sweating and ptyalism, *i.e.*, the profuse secretion of saliva, are only symptoms of the proper actions of the medicine, and intrinsically nothing more. The Turkish bath has never and could not produce the changes that pilocarpin and iodid of potassium and mercury have. The effect of the bath is very superficial; and in this combined treatment to heighten the perspiration either by the bath or

the drinking of hot water, and thereby to increase the effect of this treatment, is an altogether wrong conception. The minds of those who think thus are wholly taken up with the idea of relieving one organ by the increased activity of another. They do not connect with the combined treatment that which is its essential feature, viz., tissue change; whereas my use of the combined treatment in various diseases of the eye incidentally in disease of other organs, has shown to me emphatically its power to bring about radical change of tissue by restoring to health markedly diseased tissues.

In a case of cerebral syphilis, where I was called in consultation, the agony the man suffered was extreme, and no effort up to that time made had been able to alleviate it. However, under the combined treatment his life was made endurable; in fact, comparatively comfortable for the month or so he lived. In hyalitis, where other forms of treatment have failed, its use has given excellent and permanent results.

In many forms of choroido-retinitis, especially of the yellow-spot region, the effect has been very satisfactory and lasting. In many forms of acute iritis with posterior synechiæ and lymph in the pupillary area, where usually the acuteness of vision is permanently more or less impaired as the result of the ordinary treatment pursued, with the combined treatment a normal condition ensues; that is, a fully dilated pupil, the removal of lymph from the pupillary area and the restoration of normal vision. Especially do I consider it of decided value in gouty and rheumatic affections of the eye. In corneal nebula, specific or non-specific, the effect of the treatment has been excellent, resulting in a most decided visual improvement.

If these remarks regarding the favorable effect of this treatment apply to all parts of the eye, as I affirm they do, having, as it appears to me, proved it, then this treatment ought, of a surety, to be applicable to certain diseased conditions of other tissues and organs of the body.

In this paper I have given, of necessity, a very brief summary of the reasons of my great confidence in this form of treatment. This treatment seemed to open up so strong a possibility of being able successfully to cope with diseases of the eye, where previously failures had been the rule, that I was afraid at first that my belief in its unusual powers of healing might, after a time, prove to be misplaced. But after the combined treatment had been put to most severe and searching trials, it came out more firmly based than ever. Thus my confidence has grown, and I am now, and it appears to me rightly, firmly fixed in this belief, that it is this new use and grouping of old remedies which enable results to be brought about, satisfactory, far-reaching and permanent.

ASEPSIS IN THE ROTUNDA HOSPITAL, DUBLIN.

By E. HASTINGS TWEEDY, Master.

It is necessary before entering upon a review of the aseptic methods practised in the Rotunda Hospital to furnish a short description of the hospital itself, so as to enable those interested in the subject to form an estimate of the resources at the disposal of those who have the administration of this very old and important charity.

The hospital was erected in the year 1756, and in the hundred and fifty years that have elapsed since that date, it has structurally undergone little or no change.

It is a three-storied building, massively constructed of granite blocks, and possesses many architectural beauties. The ground floor is occupied by offices, nurses' dining hall, Master's and assistant-master's apartments, etc., while the upper two stories are in chief part given up to maternity wards; of these there are eight, four on each landing, as well as four small isolation rooms. Large, old-fashioned windows well provide for the hospital in respect to light and air, while to supplement these, circular gratings of wrought iron are placed over large apertures situate in the centre of each corridor; thus an up-current is carried from a large and airy hall through the building to be finally conveyed by means of an air shaft from the hospital through the roof.

A ward on either corridor has been divided into two, and the inner one of each of these is fitted with all the requirements of an aseptic, though inexpensive, delivery room. The outer compartments are used as waiting wards for women in an early stage of labor: until labor has begun no normal case is admitted into the hospital, but once in labor, any poor woman can enter either during day or night, without being asked to show a letter of recommendation or admission form.

On admission the woman obtains a bed-card which is filled in with certain necessary details of her history, and, if time then permits of it, she is given a warm bath, this including a very thorough washing and combing of the hair. The bath-rooms, lavatories and lift are all situate in the new gynecological wing of the hospital, erected some ten years ago, mainly through the exertions of Dr. W. J. Smyly, the then Master, to whose energies and ability we owe this and many other structural and administrative improvements.

The second stage of labor having commenced, the patient is placed on one of the couches in the delivery ward, and is taken charge of by a nurse and a student, or by two nurses. They palpate the abdomen, and write on the bed-card their diagnoses.

We find that this method procures more accurate results (and is easier to acquire) than those obtained by the vaginal examination; moreover it is free from the danger to the patient attending the latter procedure.

As ours is a teaching institution, however, vaginal examination is not neglected, and so permission is given to examine a woman four times throughout her entire labor; after each of these the diagnoses arrived at must be written on the card.

Before making an examination, the hands must be washed for four and a half minutes in a lift-up basin, to which hot and cold water is supplied by means of foot pedals; rinsed free from soap, they are then immersed in a 1 in 500 corrosive sublimate solution for a minute and a half, accurately timed by a sand glass placed on the wall.

There are certainly more efficient methods of disinfection than this, but I hesitate to employ them because of the great increase in expense that would be entailed by their use.

Safety, however, is obtained by other means, viz., the provision of rubber finger-stalls; these are boiled immediately before being used, and no examination is permitted without their employment; moreover all our operations are now undertaken with rubber gloves on the hands, and we believe that marked benefit has followed their use.

The vulva is washed by the nurse with soap and water, swabbed with aseptic tow wrung out of antiseptic solution; antiseptic tow is also placed between the labia, while the hands are being washed, to mitigate the danger of infecting the vagina with germs carried in from the vulva by the examining finger. It is hardly necessary to mention that all instruments required are boiled in soda solution immediately before being used. Great attention is paid to the repair of lacerations to the perineum, tears of half an inch being accounted of sufficient importance to stitch.

Normal deliveries are neither douched before, after, or during labor, nor is the placenta interfered with until the uterus by its unaided efforts has expelled it into the vagina. It is then expressed into a basin placed between the legs, a diaper is taken from a solution of corrosive sublimate in which it has remained for many hours, and placed whilst wet over the vulva; a binder is applied, and the patient having been lifted on to a trolley, is wheeled into the convalescent ward.

These wards are filled up with and emptied of patients in rotation; in this we endeavor to provide that the ward last emptied will remain so for a few days in order that it be thoroughly cleansed, aired, and disinfected with formalin vapor.

Each bed is numbered with a number corresponding to one painted on the wall, and neither it nor anything appertaining to that bed is permitted to be placed under any number other than its own. Thus the hand-basin, buttock-basin, mackintoshes, and night-chamber are all numbered, the result being that we can now control the spread of infection in a more complete manner than formerly, should occasion arise.

Until recently it was the custom to remove all diapers from the patient at the end of twenty-four hours, and to permit her to drain on to a draw-sheet for the remainder of her stay in hospital; we have changed this now, and instead apply sheets of Gamgee tissue rendered sterile by being well scorched at the fire immediately before use. These replace the wet diaper about two hours after delivery, and if not safer than the older plan, at least have the advantage of procuring greater comfort for the patient, and a greater degree of cleanliness in respect to the bed-linen.

One nurse has charge of three patients and their respective babies; the duties entail the thorough cleansing of the genitals night and morning. To carry out this a buttock-pan (special design) is placed beneath the patient, who is thoroughly washed with soap and water by means of sterile wipes, carried in a direction from the pubes towards the anus, the wipe being neither permitted to touch the soap or antiseptic solution after it has been applied to the skin, but thrown into the pan, and replaced by a fresh wipe. When all soap has been removed corrosive-sublimate solution 1 in 1000 is used in a similar manner, and the buttocks are then dried by a towel kept exclusively for this purpose, and renewed daily for each patient, the actual genitals not being permitted to be touched by this towel.

In the event of high temperature, or other symptoms of morbidity occurring, a forceps is employed by the nurse in holding the wipes which wash and disinfect the patient, a precaution which makes the nurse much less liable to spread infection.

It is now necessary to say a few words in description of our methods of sterilising trays, basins, and other utensils employed in the labor ward.

We are not possessed of means for obtaining disinfection of bulky articles by low-pressure steam; in the delivery room it would be very expensive and nearly impracticable to keep the large number of basins and trays continually required in a sufficiently clean state and ready at a moment's notice by a gas-boiling apparatus, and, accordingly, we have adopted the expedient of submerging them in a porcelain tank, in which 12 gallons of 1 in 6,000 biniodide of mercury solution is placed; in this they remain day and night, protected from dust particles.

by a closely fitting cover, if not required for use. When wanted, they are raised from the solution and placed in an unwiped condition on to the instrument table, and before being again replaced in the solution, they are thoroughly well scrubbed. This bath remains unchanged till labor moves to the other corridor, then all mackintoshes belonging to the room are placed in the trough, and kept soaking there for 24 hours. At the expiration of this period the tank stopper is removed, and the entire fluid is permitted to flow over the cement floor.

A thorough scalding with hot water cleanses the trough, and it is left empty till this labor ward again reopens in its turn, as already mentioned.

Bed-chambers, buttock-pans, and hand-basins are cleansed and disinfected with antiseptic solution before and after use, experience having nevertheless taught us that this is not at all times reliable in procuring sterilisation, more especially of the outside of the vessel, and a consequent danger arises that a re-infection of sheets might possibly occur from the contamination of an infected bed-chamber. We now systematically boil all these immediately the patient has left and before a new occupant of the bed arrives.

In estimating the extent of our morbidity, an arbitrary temperature of 100·8° F. has been for years considered by us as the highest limit of normal temperature throughout the puerperium.

It has been proved abundantly during the last year that as an indication of morbidity this is entirely unreliable, and if strictly adhered to in practice would lead to unjustifiable delay in our efforts to abort the septic condition. We now consider a temperature rising after the first 24 hours and remaining above 99° F. for two consecutive days as an indication of morbidity, provided it is accompanied by a pulse-rate of over 89 per minute. If temperature and pulse rise markedly, we do not wait for the two-day indication.

Our morbidity table shows an apparent increase in consequence of this departure, but it works altogether for the advantage of the patient.

When signs of sepsis develop the woman is carefully examined for an ascertainable cause; if suspicion is directed to the parturient canal, a vaginal douche is administered (a culture for microscopical examination having been first taken), and a purgative being administered, the patient's bed is raised on blocks to promote free drainage. If symptoms persist on the following day, the vagina is again douched out, a Ferguson's speculum inserted, and the cervix wiped dry with sterile wool, then a sterile glass tube suitably curved is passed into the uterus, and its contents are aspirated into the tube, by means of an

affixed syringe. The tube is next closed by sealing wax at either end, and sent down to the pathological department for bacteriological examination and report of its contents. The uterus is now douched with salt and water, peroxide of hydrogen, or cyllin solution according to the predilection of that assistant-master whose duty it may be to perform the operation.

If symptoms have not abated within 24 hours, the patient is removed, with her mattress and all her belongings, to a small isolation ward, where she is taken charge of by a special nurse, and the uterus is again douched. If the bacteriological report has been productive of positive results, the inside of the uterus is explored by means of a gloved forefinger in order that pieces of retained placenta, membranes, or old blood clot may be removed if present.

For our bacteriological laboratory and its fittings, we are indebted to my predecessor, Dr. Dancer Purefoy, who generously presented it to the hospital at a personal cost of £300.

There is nothing more remarkable in the history of the Rotunda Hospital than the steady and rapid increase of deliveries which has taken place within the last ten years.

The increase now amounts to nearly 500 per annum in the intern maternity alone; 205 women were delivered in the wards of the hospital during the month of May last year, and it can easily be understood how difficult the task became of attending in an aseptic manner so large a number of women.

The authorities of the hospital, acting with commendable foresight, have determined on a scheme to enlarge the hospital, so as to still further ensure the safety of our patients.

There are many points in this brief narration of our aseptic methods that may strike those reading this paper as cumbrous, or perhaps altogether unnecessary. My reply to such criticism is that each step described has been necessitated and evolved gradually in the systematic stamping out of serious morbidity.

Our claim to public recognition is, not that we are superior in asepsis to other well-managed institutions, but rather that we carry out our two great objects, the charity of a maternity and gynecological hospital, and of an important teaching centre, in a satisfactory and uniquely economical manner. — *The Practitioner.*

MEDICAL PIONEERS.

Puerperal Fever.

Childbed fever was a mystery to our professional forefathers. The general opinion was expressed in the otiose finding of the British jury, "Died by the visitation of God." Here and there, indeed, a shrewder guess was made as to the nature of the disease. In 1795, Gordon of Aberdeen wrote:

"I arrived at that certainty on the matter that I could venture to foretell what women would be affected with the disease upon hearing by what midwife they were delivered."

Rigby taught the same doctrine, but these were voices crying out in the wilderness. To the poet-philosopher, Oliver Wendell Holmes, belongs the glory of having first demonstrated that puerperal fever was not a product of some vague "miasm" or of want of ventilation, but a specific poison conveyed from one patient to another. A short account of the facts of his life was given in *The Practitioner* of January, 1901. In the history of medicine his name will live by his essay on "The Contagiousness of Puerperal Fever" read before the Boston Society for Medical Improvement in 1842, and published in a short-lived medical journal entitled *The New England Quarterly Journal of Medicine;* it was reissued unaltered as a monograph under the title, "Puerperal Fever as a Private Pestilence," in 1855. In that essay, Holmes presented well-digested facts, showing that the disease occurred epidemically and could always be traced to a definite source of infection. As an example of the sort of evidence which he collected, and also as an illustration of the midwifery practice of the time, may be cited the following account given by a physician of an outbreak which occurred in his practice:

"The time to which you allude was in 1830. The first case was in February, during a very cold time. She was confined the 4th and died the 12th. Between the 10th and 28th of this month I attended six women in labor all of whom did well except the last, as also two who were confined March 1st and 5th. Mrs. E., confined February 28th, sickened and died March 8th. The next day, 9th, I inspected the body, and the night after attended a lady, Mrs. B., who sickened and died 16th. The 10th I attended another, Mrs. G., who sickened but recovered. March 16th, I went from Mrs. G.'s room to attend a Mrs. H., who sickened and died 21st. The 17th I inspected Mrs. B. On the 19th I went directly from Mrs. H.'s room to attend another lady, Mrs. G., who also sickened and died 22nd."

Speaking of the evidence brought forward by him, Holmes says: "No negative facts, no passing opinions, be they what they may or whose they may, can form any answer to the

series of cases now within the reach of all who choose to explore the records of medical science." The following passage shows the intensity of the human feeling which animated his scientific researches: "It is as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamities they have caused; they have closed the eyes just opened upon a new world of life and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it with less cruelty the death of its dying parent. There is no tone deep enough for record, and no voice loud enough for warning. The woman about to become a mother, or with her new-born infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden, or stretches her aching limbs. The very outcast of the street has pity upon her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victims by a machinery as sure as destiny, is arrested in its full at a word which reveals her transient claims for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should regard it negligently, unadvisedly or selfishly."

After formulating his conclusions, he says: "The time has come when the existence of a private pestilence in the sphere of a single physician should be looked upon not as misfortune but a crime."

So bold a divergence from the beaten track of medical opinion on the part of a young man was naturally resented by the leaders of the profession as an offence of the nature of *lèse-majesté*.

Hodge, of the Pessary, and another great authority, Meigs, came forth like twin Goliaths to crush the presumptuous David. Hodge declared dogmatically that "you can never convey, in any possible manner, a horrible virus so destructive in its effects and so mysterious in its operations as that attributed to puerperal fever." Meigs pronounced with the authority, but something of the obscurity, of an oracle, that "in the propagation of typhoid fever, they could have no more to do than with the propagation of cholera from Jessur to San Francisco and from Mauritius to St. Petersburg." Hodge begged his students to divest their minds of the dread that they could ever carry the "horrible virus"; and Meigs solemnly said: "I prefer to attribute them (namely, the deaths) to accident or Providence,

of which I can form a conception, rather than to a contagion of which I cannot form any clear idea"

David slew both giants with the sling of satire. He appealed to medical students not to be deceived by the statements of the two distinguished professors, which seemed to him to encourage professional homicide. He added: "They naturally have faith in their instructors, turning to them for truth, and taking what they may choose to give them; babies in knowledge, not yet able to tell the breast from the bottle, pumping away for the milk of truth at all that offers, were it nothing better than a professor's shrivelled forefinger." In his booklet entitled "A Hundred Days in Europe," Holmes relates that at dinner somewhere he sat next to a successful gynecologist who had saved some hundreds of lives in his operations, and he asked: "Which would give the most satisfaction to a thoroughly humane and unselfish being, of cultivated intelligence and lively sensibilities: to have written all the plays which Shakespeare has left as an inheritance for mankind, or to have snatched from the jaws of death more than a hundred fellow creatures, and restored them to a sound and comfortable existence?" In regard to this question Professor Osler once said there was no one who could answer it so satisfactorily as Holmes himself, and expressed a curiosity to know from which the "Autocrat" derived the greater satisfaction—the "Essay on Puerperal Fever," which had probably saved more lives than any individual gynecologist, or the "Chambered Nautilus," which had given pleasure to so many thousands. The journal in which this question was asked reached Holmes, who, on January 21st, 1889, wrote to Professor Osler as follows:

"I have rarely been more pleased than by your allusion to an old paper of mine. There was a time certainly in which I would have said that the best page of my record was that in which I fought my battle for the poor poisoned women. I am reminded of that essay from time to time, but it was published in a periodical which died after one year's life, and therefore escaped the wider notice it would have found if printed in the *American Journal of the Medical Sciences*. A lecturer at one of the great London hospitals referred to it the other day, and coupled it with some fine phrases about myself which made me blush, either with modesty or vanity, I forget which.

"I think I will not answer the question you put me. I think oftenest of the 'Chambered Nautilus,' which is a favorite poem of mine, though I wrote it myself. The essay only comes up at long intervals. The poem repeats itself in my memory, and is very often spoken of by my correspondents in terms of more than ordinary praise. I had a savage pleasure, I confess, in handling those two professors—learned men both of them,

skilful experts, but babies, as it seemed to me, in their capacity of reasoning and arguing."

In 1893, at a dinner of the American Gynecological Society in Philadelphia, a letter from Holmes was read, in which, referring to his writings on puerperal fever, he said: "I think I shrieked my warning louder and longer than any of them, and I am pleased to remember that I took my ground on the existing evidence before the little army of microbes was marched up to support my position."

This not inaptly expresses the service rendered to humanity by Oliver Wendell Holmes in the matter of puerperal fever. It was a very great step in advance to convince men of the fact of its contagiousness. But it was not a solution of the problem. That was reserved for another who, less fortunate than Holmes, was without honor in his lifetime and died, a disappointed and broken man, in a madhouse.

Ignaz Philipp Semmelweis was born at Budapest in July, 1818. He studied medicine at the university of his native city and also in Vienna, where he took his doctor's degree in 1844. As a student he had attracted the favorable notice of Rokitansky and Skoda, and it was his first intention to devote himself to medicine. Being, however, appointed assistant in the maternity department of the Vienna General Hospital, then under Klein, he gave himself to the study of women's diseases. At that time the department was devastated by puerperal fever, the deaths never being less than 5 and often reaching nearly 8 per cent., sometimes much higher. In the period from October, 1841, till May, 1843, of 5,139 women confined in the maternity 829 died, a mortality from childbed fever of more than 16 per cent. Besides Klein's clinic there was another, of which Bartsch was the head. In both alike instruction was given to medical students and to midwives, and as long as this arrangement continued there was no marked difference in the death rate. By an order of the Government, however, Klein's clinic was reserved for students and that of Barsch for midwives, and before long it became evident that the mortality in the former was largely in excess of that in the latter. In the period of six years, 1841 to 1846, the death rate in the students' clinic was 9.29, while that in the other was only 3.38. The matter was investigated by several commissions of inquiry, but they failed to discover the cause. So sinister was the reputation of Klein's clinic that women who found themselves in it gave themselves up for lost and begged to be sent home. Every day priests administered the last consolations of religion in the fatal wards, the fact being notified by the ringing of bells. Semmelweis says:

"I myself was terror stricken when I heard the sound of

the bells at my door, a deep sigh rose in my breast for the unfortunate mother, who was the victim to a cause hitherto unknown; this worked on me as a fresh incentive that I should, to the best of my ability, endeavor to discover the mysterious agent, and a conviction grew day by day that the prevailing fatality in No. 1 Clinic could in nowise be accounted for by the hitherto adopted etiology of puerperal fevers.*

He saw that it could not be explained by the "atmospheric cosmic, or telluric influences" to which it was generally attributed, for the mortality was confined to certain wards whose conditions in these respects differed in no way from the others and from private lying-in rooms in the city. Overcrowding could equally be excluded. Semmelweis observed that, while patients in Klein's clinic who had been in labor for 24 or 48 hours were doomed to almost certain death, there was no unusual mortality among cases of protracted labor in Bartsch's wards. He noted further that among women delivered before admission to the hospital the death rate was insignificant. As to all this, Semmelweis says:

"The fatal termination of almost all the cases of protracted labor, and the immunity from fever in those who were admitted after delivery, seemed to controvert the theory that the fatality of No. 1 Clinic was to be attributed to local endemic causes, as was suggested. Again, when I consider the wholesale attacks of patients lying side by side, a circumstance not noticed in the other clinic where the treatment was in no way more skilful or more conscientious; lastly, the disfavor with which all those were looked upon who were in any way connected with the unfortunate clinic; all these things engendered a state of mind which rendered my life anything but enviable."

Giving up his appointment for a time, Semmelweis visited the maternity hospitals of other countries, especially those of Great Britain. On his return to Vienna he heard of the death of a friend, Professor Kolletschka, who had succumbed to the results of a dissection wound which caused phlebitis, with pleurisy, pericarditis, peritoneal and cerebral complications, and secondary abscesses. The case made a deep impression on the mind of Semmelweis from the striking similarity of the symptoms which he had so often had occasion to observe in fatal cases of puerperal fever. Reflection on the case of his friend revealed to him in a sudden flash of light the real nature of childbed fever. The students who attended Klein's clinic were much engaged in the study of practical anatomy, and they came to the lying-in wards straight from the dissecting room

*Quoted by Dr. Theodore Duka in his little monograph, entitled "Childbed Fever: its Causes and Prevention" (Hertford. Printed by Stephen Austen & Sons, 1888), on which this brief account of Semmelweis is founded.

after simply washing their hands with soap and water. The conclusion was irresistible, that they conveyed on their hands a poison which they introduced into the body of the parturient woman, and in this way septicemia was produced in the same way as had occurred in the case of Kolletschka.

Semmelweis saw that a newly delivered woman is in the position of a patient with an open wound, and that puerperal fever is, in fact, produced by infection through the raw surface of the uterus. Hence it is claimed for him by no less an authority than Hueppe that he was the true begetter of the septic treatment of wounds. But he was far in advance of his day, and though his views found powerful supporters, they were strongly opposed by Scanzoni and other leading authorities. It must be admitted, too, that Semmelweis seems to have been deficient in moral backbone. While complaining bitterly of persecution, he had little stomach for the fight which is forced on every pioneer of new truth. It was only with difficulty that he could be induced to bring his views before the medical profession, and for many years he allowed his enemies to denounce him without attempting to reply. It was with great reluctance that, towards the end of his life, he produced a book in which his views are fully set forth. He had no chance of getting a professor's chair at Vienna. Moreover, as a Hungarian, he was looked upon with suspicion and disfavor by the Austrian Government. Disappointment and stress of politics finally drove him from Vienna. After a time he was appointed to the chair of midwifery in the University of Budapest. In that position he was able to speak with greater authority, but petty annoyances to which he was subjected, proved too much for his overstrung temperament, and he had finally to be placed in an asylum at Vienna. There he died on August 17th, 1865, in the forty-seventh year of his age. The direct cause of death was, by a coincidence of which there are not a few examples in medical history, that form of blood poisoning whose nature he had done so much to elucidate. Before mental derangement had manifested itself, he had wounded his hand in operating on a new-born infant. The wound gave rise to an abscess, and general infection supervened. His body was taken to its last resting-place from the very hospital in which he made his memorable discovery.—*The Practitioner.*

CLIFFORD ALLBUTTS' ADDRESS AT ST. LOUIS.

In one of its October issues, *American Medicine* gives in full the simple, forceful paper read at the Congress of Arts and Sciences by the respected Regius Professor of Physic at Cambridge. As literature the essay is beautiful. As a message it is of the most direct and practical nature. Choosing the ever-absorbing history of medicine as a language, in the terms of which he finds most profit for the task in hand, the speaker reviews the relations in the past of head to hand, and, from the great variation in respect given through the different centuries to the development of intelligent skill in the use of the latter of those two factors of human skill, draws a clear and concise lesson for application in the present era. For he sees a grave danger in the present-day separation of medicine and surgery, a separation which has proceeded so far that Mr. Chamberlain, a statesman notably in sympathy with the healing craft, referred lately to "these two great professions." Again, so closely always has the growth of medicine been associated with philosophy on the one hand, and the practical sciences on the other, that, when he finally comes to his conclusion, the moralist is able to speak more broadly than as a physician, in indicating a means of prevention of a considerable danger to modern education in these other paths.

The glance through the years commences with the Grecian age. Hippocrates commands our eternal respect because of the practical element in his work. Handicapped as he was by the humoral theory, he so pursued a "laborious grinding at nature," using his reason in a perceptive and interpretative manner, that his spirit is broad, rational and almost scientific. If he possessed no accurate knowledge of internal anatomy, he and his followers acquired much intelligence in palpable, clinical anatomy, so that the moment an inward malady, such as empyema, worked its way to the surface it was well within their grasp, and a splendid surgical ability had they. Thus Hippocrates is said in fractures and dislocations of the forearm to be more complete than Boyer; in congenital dislocations, richer than Dupuytren. Eye diseases were at a high degree of understanding, as were obstetrics, which always flourish when surgery flourishes.

The chief lesson to be learned from this period, truly a great one, is the close relationship and division of honor between medicine and surgery. From Celsus to Galen this condition held, and among the noteworthy achievements of the great Roman of 100 A.D., may be mentioned resection of the sternum

for caries, the heart being exposed, and also the excision of a broken scapula. From the days of Galen, however, began the long dark night of medicine, a night illumined but once by the practical Avicenna and his contemporary Arabs. This time of degradation of the healing art came about by the cutting off of its right arm, surgery. The religious stoicism of the East, the narrow bigotry of the West, contributed to its downfall. Work with the hands called forth contempt. "Why dissect if you trust Galen?" they asked. In the tenth century the University of Paris excluded all who worked with the hands. St. Corne followed, and thus was the bifurcation of medicine and surgery complete. This period may be looked upon as the dark chapter in the chronicles of medical evolution. But the change was to come, and it was the lowest stratum of medical creatures, "the wayfaring class of bonesetters, oculists, plastic operators, and cutters for stone and hernia," that evolved Franco, a man to become truly great, and to pave the way for that master, Ambroise Paré. These two men were the pioneers of the great development which commenced at the beginning of the sixteenth century. Paré, so eminent did he become, was able to attain to the highest social position in his native land, in spite of the exclusiveness of the faculties of Paris, in spite of his lack of general education, and even of Latin. Thus it was that surgery had its bitter revenge for the way in which it had been laid so scornfully aside.

Leaving the historical, the writer goes on to deduction. "This is the truth I have tried to get home to you," he says, "that in the truncation of medicine the physician lost not only a potent means of treatment, he lost thereby the inductive method, he deprived his brains of the co-operation of the subtlest machine in the world, the human hand." Pure thought, he thinks, has occupied too many great minds. That it all may have been vain seems possibly unreasonable to judge, and we may find that our regard for the inductive may lead us to look too critically at methods which may yet play some lasting part in evolution, but abstraction is abstraction, and carries us a long way from deeds and things.

Our universities are apt to make of education thought without hands, our technical schools hands without thought. It is a bridge between craft and thought that the writer urges, and the examples he cites as notable for their combining of these qualities are such as Helmholtz, Stokes, Virchow, Pasteur, and Lister, in science. He commends the University of Birmingham in its having a coal mine on the grounds. He admires the wonderful confederacy of head and hand of the artists, Michael Angelo and Leonardo da Vinci, "the greatest craftsmen perhaps the world has seen," who were as skilful to invent a water

engine, to anatomise a plant, to make a stonecutter's saw, as to build the dome of St. Peter's above the clouds of Christendom.

Finally, our tendency to regard the fine arts as honorable, mechanical arts as servile, our weaning of our young from simple crafts through which they might rise to lovely crafts, and the teaching of them the insolence that, except in sport, they should drop the acquaintance of the fingers—are all points on which he warns us. For "it was by the mouths of barbers and cutters rather than of the Pharisees of the colleges, that medicine breathed her lowly message to her children." H.S.H.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON, C. J. COPP AND F. A. CLARKSON.

Urine Examination.

R. C. Cabot, Boston (*Journal A. M. A.*, March 18-25), states that, incited by a statement of Councilman that the chemical and microscopic examination of the urine failed to give certain information of the character of the renal lesions, as well as by discrepancies coming under his own observation, he has compared critically the records and *post mortem* findings in the cases that have come in autopsy in the Massachusetts General Hospital since 1893. Although the number of cases is not large, he thinks they warrant the following conclusions: 1. Many cases of acute glomerular nephritis occur that are unrecognized by any known methods of examination. 2. The diagnosis is at fault in some cases of subacute and chronic glomerular nephritis, but in the great majority of cases the condition of the urine, taken in connection with other symptoms, foretold the autopsy findings. 3. In chronic interstitial nephritis the diagnostic resources appear to be neither so sufficient as in the chronic glomerular form, nor so inadequate as in the acute glomerular nephritis. In about a third of the cases the diagnosis was correctly made before death. 4. Among other conditions mistaken for nephritis bytoo much reliance on the urinary findings are senile and arteriosclerotic condition, mistaken for chronic nephritis, while in conditions involving passive congestion or acute kidney degenerations, the urine occasionally simulates that of acute nephritis. Even where no lesions are found at autopsy the urine is sometimes highly albuminous and full of casts. 5. In ordinary urinary examinations the common errors are: (*a*) The attempts to estimate urea without accurate knowledge of the patient's metabolism. (*b*) Stating that renal cells are present when all that is seen are small mononuclear cells, perhaps from the kidney tubules, perhaps not. 6. Cryoscopy and other attempts to test the renal permeability more directly are not yet capable of supplementing in clinical work the older methods of examination. Cabot holds that the vast majority of estimations of urinary solids, including urea, are a waste of time, since they are not and can not be made part of a general metabolism experiment, and that the attempt to estimate the anatomic condition of the kidney

by measuring albumin and by searching for casts is fallacious. The most reliable data are the twenty-four-hour quantity, the specific gravity and the color.

The Blood Changes in Pneumonia.

In blood cultures from 175 cases of lobar pneumonia, E. C. Rosenow, Chicago (*Journal A. M. A.*, March), found pneumococci in all but fifteen. In eleven of the fifteen cases the second culture was not possible. In the other four, repeated cultures failed, though in one careful search of the smears directly from the blood revealed pneumococci. Leucocytosis was high in all four, and he was inclined at first to suspect a phagocytic action, but later research showed that the negative cultures were made later in the disease, thus indicating a diminution in number or viability, or both, of the pneumococci at the time of crisis. Rosenow does not seem to consider the blood cultures of great prognostic value in the disease, though he says, other things being equal, a high leucocytosis appears to be a favorable sign rather than otherwise. The agglutination test of the pneumococci he does not think of much practical value. The point he considers of most importance is the reaction changes; a well-marked acid reaction associated with a voluminous sediment appearing in cultures of pneumococci in pneumonic and not in normal serum. He asks, in view of this fact, whether some of the symptoms of pneumonia may not be due to an acid intoxication of the system, and, in support of this theory, he adduces experiments which have been made with the alkaline treatment for a year past in Dr. Frank Billings' clinic, in the Presbyterian Hospital. From one to three drams of sodium bicarbonate in at least four ounces of water were given by the mouth or in still larger doses by the rectum. No other treatment was employed except heart tonics, catharsis or venesection whenever required, which was very seldom. Judging from the results this alkaline treatment seems rational.

Immunity.

In the chapter of the special article on Immunity, *Journal A. M. A.*, March 18, Ehrlich's definition of toxins is given and the method of preparation of soluble toxins by filtering of cultures and by precipitation. This does not produce a pure toxin, and some micro-organisms produce more than one body of this nature. There are also non-specific toxic substances, and under these circumstances the essential test of the toxin must be the production of an antitoxin for the specific ailment it produces. There are some organisms, however, which produce highly toxic conditions, typhoid, cholera, etc., but which do not furnish toxins until the dead or ground-up bodies are

employed or till the cell contents are set free by autolysis or self-digestion. Such are the so-called intracellular toxins, and from these, so far, we have not been able, *The Journal* says, to obtain efficient antitoxins. Other toxic substances may be derived from bacteria and may represent some chemical change in the process of disintegration, and here the immunization test must also be employed to determine their true nature. The method of commercial preparation of antitoxins is given at some length, and the adopted antitoxin unit is explained, and the method of testing diphtheria antitoxin is described. The advantages of such a uniform method of standardization and insurance of the purity of the product in this country is emphasized. The possibilities of poisoning by some adventitious toxin in the serum must be thoroughly guarded against.

On the Administration of Antistreptococcic Serum.

In *The Lancet*, December 31st, 1904. J. W. Thomson Walker, M.B. (Edin.), P.R.C.S. (Eng.), commenting on his experiences draws the following conclusions:

1. That injection of antistreptococcic serum in cases of pure streptococcal infection has been followed by strikingly beneficial results.

2. That variability in the results of the serum in proved streptococcal infection has been due to the selective activity displayed by the antitoxin of each variety of streptococcus or to the serum being used too late in the case or having lost its activity from staleness.

3. That more uniform results are likely to be obtained from the present "compound" antistreptococcic serum than from the earlier forms, from the prompt injection of serum at the commencement, instead of near the close, of a severe infection, and from the use only of serum which has been recently prepared.

4. That the initial dose may with benefit be increased, and that a large quantity spread over several days causes no ill effect.

5. That the administration of the serum should be continued for some days after the general symptoms have disappeared and a recrudescence thus avoided.

Writing of the dosage, he suggests 20 to 30 c.c. as the initial dose, followed by smaller doses.

No ill effects have followed the injection of 80 c.c. in daily doses of 10 c.c. Dr. Victor Bonney, *Lancet*, Vol. I., 1900, p. 1342, injected 420 c.c. in forty-two injections in seventeen days; and Dr. Harold Low, *Lancet*, March 19th, 1898, p. 780, injected 263 c.c. altogether, 67 c.c. being injected in twenty-four hours.

C. J. C.

The Prognostic Value of the Diazo-Reaction in Enteric Fever.

Writing under this head in the *Lancet*, February 4th, 1905, J. D. Rollestin, M.A., M.D. (Oxon.), states his observations on a series of sixty-five cases. His conclusions are that:

1. In all but seven attacks the diazo-reaction tends to disappear in the course of the second or third week, this disappearance shortly preceding, or coinciding with, the commencement of lysis. Of his cases admitted to the Grove Fever Hospital, Footing, those admitted during first week showed 9 positive, none negative; second week, 24 positive, 9 negative; third week, 9 positive, 8 negative; fourth week, 2 positive, 2 negative, and fifth week, 1 positive, 1 negative. In twenty-seven of these cases in which the test was employed throughout the disease the diazo-reaction became finally negative at the following dates: first week, 0; second week, 6; third week, 12; fourth week 3; fifth week, 4; sixth week, 1; and seventh week, 1. His experience coincides with that of Oppenheim and Loeper, who hold in opposition to Rivier (1898) that an intense reaction is by no means the appanage of severe forms of the disease as it is found in the immense majority of cases in which the urine is examined during the first fortnight.

2. Its reappearance during or after the completion of lysis is a warning of recrudescence or relapse or of complications directly due to the specific bacillus.

3. A sudden disappearance of the reaction associated with a deterioration of the general condition is a bad omen.

4. The character of the reaction is a useful check to the history. A decidedly negative reaction in an undoubted case of enteric indicates that the patient has in all probability been ill for at least fourteen days; a positive reaction, on the other hand, in the absence of a relapse or recrudescence, shows that the illness has lasted little more than a fortnight at the most.

C. J. C.

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM, C. B. SHUTTLEWORTH AND F. W. MARLOW.

Aseptic Operating.

H. T. Byford, Chicago (*Journal A. M. A.*, March 11), objects to rubber gloves and impervious covering of the hands on the ground that they produce sweating, and that a scratch or puncture would liberate the accumulation of germ-laden perspiration. He advises soaking the hands thoroughly to soften the cuticle and to loosen the dirt between the epithelial scales, and

for this purpose he prefers water drawn in a basin and frequently changed to running water. After soaking the hands and scrubbing them with green soap he advises a scrubbing with diluted acetic, citric or oxalic acid. This in turn is followed by soaking in 90 per cent. alcohol and then in a 1-1000 solution of bichlorid of mercury. In protracted operations, he advises dipping the hands in mercuric solution every 10 or 15 minutes to insure asepsis. He does not believe in mixing the solutions of alcohol, green soap, etc., but prefers to keep them separate, and he objects also to sterilized sleeves. Of equal importance is the sterilization of the field of operation. It is easy to sterilize the abdomen, but it is more difficult in case of the groin or genitalia. The shaving should be carefully done to avoid abrasions and the parts scrubbed, not only with soap, but with alcohol and mercuric chlorid, and minor operations should receive the same attention as the major. The best after-dressing is sterilized gauze shreds over the sutures and a thick layer of sterilized gauze over these. Inguinal wounds should be washed off after six days and then covered with dry sterile gauze, to be removed daily or otherwise as occasion requires. Dry dressings over peritoneal sutures should be changed every four hours or oftener if they become saturated.

Removal of Glands in Cases of Malignant Diseases of the Tongue.

In the *British Medical Journal*, February 11th, 1905, Mr. Butlin, with whose admirable work on "Diseases of the Tongue" most surgeons are familiar, describes what may be called the second stage of the operation which he performs in cases of cancer of the tongue. This is the clearing out of the contents of the anterior triangle of the neck in a manner analogous to that in which the axilla is cleared out in operations performed for malignant disease of the breast. Not only does he remove the major portion of the subcutaneous tissue and platysma muscle, all the lymphatic glands, including the submental, the submaxillary, and the upper and lower deep cervical groups, but also the submaxillary salivary gland beneath or within which lymphatic glands are frequently embedded, and often a part of the parotid salivary gland, a part of the omohyoid muscle, and occasionally a portion of the internal jugular vein, and possibly also of the external carotid artery as well.

While stating that cancer of the tongue in its anterior third usually involves the submental glands, in the middle third the submaxillary glands, and in the posterior third the deep cervical glands, he points out the fact that no matter what the situation of the cancer may be one cannot rely upon the glandular involvement being confined to any particular group. Hence, he

regards it as advisable in all cases to make the complete dissection of the anterior triangle, as he has done in practically all his cases since December, 1895.

In his operation two incisions are employed, the first one extending along the anterior border of the sterno-mastoid muscle, from the mastoid process above to the sterno-clavicular joint below, and the second one from the symphisis menti across the side of the neck to meet the first, at nearly a right angle, opposite the upper border of the thyroid cartilage. These map out two flaps, which, being reflected, consist of little more than skin on account of the presence of a submental and also a submaxillary lymphatic gland in the subcutaneous tissue. The dissection is made from below upwards, and when completed the large vessels and the nerves remain thoroughly cleared of all fatty, fascial or glandular tissue.

On account of the inability to apply adequate pressure to the neck, and the likelihood of considerable oozing of blood and serum under the readjusted flaps, and possibly also of saliva from the wounded parotid salivary gland, drainage is carried out by means of gauze strips and a tube during the first day, and after that by means of the tube alone as long as desirable. A salivary fistula never occurs, and healing is complete in from nine days to three weeks.

Mr. Butlin, who, from a large experience, is now thoroughly convinced of the propriety of this procedure, performs the operation in a little less than one hour and a half, and claims that it is not difficult. The average time of performance is nine days, subsequent to the preliminary operation on the tongue itself. This allows healing of the wound of the tongue to become sufficiently advanced to remove the chance of infection of the neck by way of the tongue, and to enable the patient to take readily ample nourishment to withstand the effects of the second operation. In several cases where the glands of both sides were involved, Mr. Butlin has cleared out the contents of the two anterior triangles, the patients making very good recoveries. The published results of his operations undoubtedly uphold his method of procedure.

F. W. M.

Editorials.

AMERICAN MEDICAL ASSOCIATION.

The next meeting of the American Medical Association will be held in Portland, Oregon, July 11th to 14th. We learn from the *Buffalo Medical Journal* that the attendance is likely to be larger than any previously held on the Pacific Coast. Two reasons are given for this—first, the railroads were never before able to give such good accommodation to tourists as now; second, the Lewis & Clarke Exposition, the Western World's Fair, will furnish attraction beyond any previously offered on the Pacific slope. Those living in Buffalo and vicinity who expect to attend are recommended to go first to Chicago. The initial road from Chicago to Portland is the North-Western Railroad to Omaha, and thence by the Northern Pacific to Portland; and returning, the Northern Pacific Railroad will carry passengers to St. Paul, and the North-Western Railroad thence to Chicago. Intending visitors are requested to make application to the railways early, because if the agents of the latter know approximately the number of passengers for whom provision must be made, they will be able to give better accommodation. As the North-Western is the initial line, according to the diagram recommended, physicians are asked to communicate with the main office, 201 Main Street, Buffalo.

THE FATHER OF LARYNGOLOGY.

Several journals, both lay and medical, have made reference to the fact that on March 17th, St. Patrick's Day, Manuel Garcia reached his one hundredth birthday. The *Practitioner* (English) considers that it is highly probable that the medical profession scarcely realizes the debt which it owes to outsiders in respect of advances to sciences directly bearing on this work. One of the most conspicuous instances of this is a discovery which sheds light on what was previously one of the dark places of medicine, and is recalled by the fact that Manuel Garcia, the inventor of the laryngoscope, completed the hun-

dredth year of a useful and glorious life on March 17th. Garcia has lived for many years in London, England, and still continues to advise singers and composers in that city. His extreme age is the more astonishing in consideration of the fact that in 1829, that is, seventy-six years ago, he retired from the stage on account of a weak constitution. Fortunately his farewell to the stage did not mean a leave-taking of the art of music. After he invented the laryngoscope he was made a doctor of medicine by Konigsberg University. The investigations leading to the invention were very important from a medical standpoint. As a result of his experiments and observations Garcia wrote a monograph on the mechanism of singing, which was received with enthusiasm by the Royal Academy, and has been the foundation of many articles since written on the subject. In 1847 he published a book on the art of singing, which is now considered a classic. In his youth he was a noted baritone singer, and later became a famous teacher. Jennie Lynd was one of his pupils at the Royal Academy, where he was a professor for more than forty years.

NEW DISPENSARY FOR OUT-PATIENTS IN GLASGOW.

The formal opening of the new dispensary of the Western Infirmary of Glasgow, which took place January 18th, was an interesting function. We learn from the *British Medical Journal* that the Chairman of the Managers, in a short address, said the question of increased dispensary accommodation had been under consideration since 1892, but no special appeal was made until 1897. In that year they had asked for subscriptions for dispensary purposes, and received about $125,000. During last year the patients treated in the old buildings numbered 22,000, and the number of separate visits made was 94,000. Besides the relief afforded the sick poor, the dispensary greatly aided medical education. Last year 490 students were in attendance on the out-door practice. In the design of the new buildings special attention had been given to the increased facilities for teaching. The estimated cost was nearly $175,000, or about $50,000 more than the sum specially subscribed.

Sir Lauder Brunton, who went from London to Glasgow to deliver an address, referred to his long connection with the out-door patients at St. Bartholomew's Hospital. He congratulated the company on the erection of the new dispensary buildings. He believed that the money expended in such a way benefited all classes of the community. He considered that in the new dispensary the arrangements for teaching were admirable, inasmuch as future medical men would in consequence learn much of the treatment of the common ailments. He considered that the new dispensary was the best of its kind in existence, and expressed the hope that those who had so munificently founded the institution would see that it was properly sustained in the future.

This report is specially interesting to us in view of the fact that Mr. Cawthra Mulock has recently given to the Toronto General Hospital Trust the sum of $100,000 for a similar building to be erected in Toronto in the near future. Mr. Mulock has also expressed a desire that the new building, when erected, will be so arranged as to give increased facilities for clinical teaching.

DEATHS FOR FEBRUARY, 1905.

OFFICE OF THE SECRETARY,
PROVINCIAL BOARD OF HEALTH.

The returns for the above month are more nearly complete than for the same month last year, and it is gratifying to know that the number of deaths reported are less. In February, 190 the Division Registrars reported 2,332 deaths with a death rate of 14.4 in 1,000, while for the corresponding month this year 2,263 have been recorded, representing a population of 1,935,897, which makes the mortality rate 14.0 in 1,000.

The cities, towns and villages reported 1,294 from a population of 927,000, which brings the death rate up to 16.1, but the rural districts returned only 1,014 deaths from a population of 1,008,897, giving a death rate of 12.0.

Smallpox has reached a very low point, only eight cases occurring during the month as against 41 with one death a year ago. Scarlet fever shows a case reduction, but a slightly

increased death rate. Of the 209 cases and 16 deaths that have occurred, 141 with nine deaths were reported from the cities and towns, which makes a case mortality of 6.3 per cent., and in townships 68 cases and seven deaths took place, making a case mortality of 10.3 per cent. Diphtheria has not been so prevalent, as may be seen by the comparative table. The cities and towns returned 216 cases with 28 deaths, and the rural districts 54 with seven deaths, the case mortality being the same in both, 12.9 per cent. Typhoid fever shows but little change, while tuberculosis caused 165 deaths, or 20 less.

COMPARATIVE TABLE.

	1905.		1904.	
DISEASE.	CASES.	DEATHS.	CASES.	DEATHS.
Smallpox	8	0	41	1
Scarlet Fever	209	16	251	13
Diphtheria	270	35	289	45
Measles	119	2	41	1
Whooping Cough	22	3	36	16
Typhoid Fever	43	19	60	18
Tuberculosis	177	165	185	185
	848	240	903	276

Personals.

Dr. J. Orlando Orr returned from England to Canada March 27th.

Dr. Jas. M. MacCallum, of Toronto, started on a trip to Europe February 25th.

Dr. Bryce McMurrich, of Bothwell, visited Toronto about the middle of March.

Dr. Thomas Roderick, of Montreal, has spent the greater part of the winter in Florida.

Dr. W. P. Caven, of Toronto, returned from Atlantic City, and resumed practice March 5th.

Dr. Geo. McDonagh, of Toronto, returned from his Mediterranean trip and resumed practice.

Dr. W. J. O. Malloch left Toronto for England March 13th. He will spend considerable time in post-graduate work.

Dr. Geo. A. Peters, of Toronto, after an attack of la grippe, spent a portion of the month of March at "The Welland," St. Catharines.

Dr. James Stewart, of Halifax, President of the Canadian Medical Association, after a short visit to Toronto, where he was the guest of Dr. Primrose, left for his home March 20th.

Dr. A. McPhedran, of Toronto, has recovered from an attack of la grippe. He left home March 8th for Washington, and after spending a few days in that city, went on to South Carolina.

Dr. A. Primrose went to Edmonton, N.W.T., to give expert evidence at the murder trial. He then went on to the Pacific Coast, visiting Vancouver and Victoria, and returned to Toronto March 17th.

In answer to an inquiry regarding the case of Dr. Harper, President of the Chicago University, Dr. Nicholas Senn said the suspicions of malignant disease of the cecum were well founded and have been corroborated by Dr. McBurney's exploratory incision.

A curious libel case has been brought against the *New Orleans Picayune* by Dr. Martin (*Detroit Medical Journal*). Suit is brought because the newspaper published an account of an operation on a child. The operation was successful, and the article published was commendatory, but the physician claimed damages on the ground that his professional reputation had been injured because the Society of Physicians to which he belonged was averse to such publication.

Obituary.

DAVID THOMPSON, M.D.

Dr. Thompson, of Hamilton, formerly of Cayuga, Ont., died February 19th, aged 43. He received his medical education at Trinity Medical College, Toronto. After graduating he went to the Old Country and took the double qualification of Edinburgh and Glasgow.

NIVEN AGNEW, M.D.

Dr. Agnew, of Brandon, Man., died at St. Paul, March 1st, from pneumonia. He graduated M.D. from Victoria University, 1858. After practising for some years in Toronto, he moved to Winnipeg, and subsequently to Brandon, where he had been in practice for several years.

LUTHER HOLDEN, F.R.C.S.

Mr. Holden, Consulting Surgeon, St. Bartholomew's Hospital, author of certain works on anatomy, of which the chief one was that on "Human Osteology," died at Putney, February 6th, in his 90th year.

Book Reviews.

The Treatment of Fractures: With Notes upon a Few Common Dislocations. By CHAS. L. SCUDDER, M.D., Surgeon to the Massachusetts General Hospital. Fourth Edition, thoroughly Revised, Enlarged, and Reset. Octavo volume of 534 pages, with nearly 700 original illustrations. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Polished Buckram, $5.00 net; Sheep or Half Morocco, $6.00 net. Canadian Agents: J. A. Carveth & Co., Limited, Toronto.

There are few fields in surgery that are not overcrowded with literature, much of which would be better unwritten. However, this cannot be said of that field covered by the work under review. Since the appearance of Dr. Frank Hamilton's memorable work nothing has appeared in the English language that equals Scudder's. It is bound to become a classic on the subject of fractures. The advantage that is gained by the subject of radiography has undoubtedly been great, and the author has taken full advantage of this. That four editions have appeared in four years is a fine testimony of the value of the work.

The illustrations in the book are remarkable for their clearness, and wherever it is possible sketches are introduced showing the details of the splints and their modes of application, particularly where the more elaborate illustrations would not show these details. The description of the method of reducing fractures and the application of splints is gone into with great detail, yet there is no such thing as verbosity in the book. The chapters on "The Rontgen Rays and its relation to Fractures," "The Employment of Plaster-of-Paris," and "The Ambulatory Treatment of Fractures" are exceedingly important at the present time and convey the present status of the question concisely put. We look upon this as the most up-to-date work on Fracture, and one that no practitioner who has to deal, even unfrequently, with fractures should be without.

The illustrations, typography and binding are in the usual good style of the W. B. Saunders & Company.

Gallstones and Their Surgical Treatment. By B. G. A. MOYNIHAN, M.S. (LOND.), F.R.C.S., Senior Assistant Surgeon to Leeds General Infirmary, England. Octavo volume of 386 pages, illustrated with text-cuts, some in colors, and nine colored insert plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, $4.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

The great and increasing importance of the subject of gallstone disease is a sufficient warrant for the publication of this work, and Mr. Moynihan's extensive experience in treating cholelithiasis specially fits him to write an authoritative and

trustworthy work. A full account is given of the origin and causation of gallstones, and of the pathological changes and clinical manifestations to which they give rise. Special attention has been paid to the detailed description of the early symptoms of cholelithiasis, enabling a diagnosis to be made in the stage in which surgical treatment can be most safely adopted. Every phase of gallstone disease is dealt with, and is illustrated by a large number of clinical records. The account of the operative treatment of all the forms and complications is full and accurate. The illustrations, a number of which are in color, including nine insert plates, are unusually clear and artistic, and form a special feature.

Diseases of the Ear, Nose and Throat. Illustrated. A compend of Diseases of the Ear, Nose and Throat. By JOHN JOHNSON KYLE, B.S., M.D., Lecturer on Otology, Rhinology, and Laryngology, and Assistant to the Chair of Surgical Pathology in the Medical College of Indiana, etc. 85 Illustrations. 12mo, 280 pages. Strongly bound in Cloth, $1.00; Interleaved, for the addition of notes, $1.25. Philadelphia: P. Blakiston's Son & Company.

This volume presents the best condensed thought of the most accepted authorities on this subject, and may be appealed to with safety and satisfaction. In brief, there is no better epitomized laryngology than the Kyle Compend.

The Physician's Visiting List.

The Physician's Visiting List (Lindsay & Blakiston's) for 1905-06 is a small, neat, compactly-made, strongly-bound pocket book, with leather cover, gilt edges, tuck, pocket, and rubber-tipped pencil, made up to hold 25 to 100 patients' records per day, week or month, dated and undated, with pages for special memoranda and tables for ready reference. It is a book of original entry; a simple, plain statement of a year's work that may be kept with a minimum of labor. It is the ideal book for the physician. P. Blakiston's Son & Co., Philadelphia.

Diseases of Children. Third Edition, Revised. Illustrated. A Compend of Diseases of Children. Especially adapted for Students and Physicians. By MARCUS P. HATFIELD, Professor of Diseases of Children, Chicago Medical College. Colored Plate. Third Edition. 12mo, 241 pages. Strongly bound in Cloth, $1.00; Interleaved, for the addition of notes, $1.25. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut Street.

Dr. Hatfield seems to have thoroughly appreciated the needs of students, and most excellently has he condensed his matter into available form. It is in accord with the most recent teachings, and while brief and concise, is surprisingly complete in subjects and detail. . . . It is free from irritating

repetition of questions and answers which mars so many of the compends now in use. Written in systematic form, the consideration of each disease begins with its definition, and proceeds, through the usual sub-headings, to prognosis and treatment, thus furnishing a complete, readable text-book in miniature.

A Text-Book of Physiology. By ISAAC OTT, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. With 137 illustrations. Royal octavo, 563 pages. Bound in extra cloth. Price, $3.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The volume before us meets all the requirements of a very advanced text-book. It has brought the subject of physiology, which has made such rapid strides in the past few years, up to date. The style of the author is free, which makes the reading very much easier. Technique has been omitted, but the results of experiments are carefully given. It is necessary to the successful practice of medicine to be well grounded in physiology, and a text-book of the quality of Otts' is essential to the better understanding of this more elaborate treatise. We can thoroughly recommend the work to the student of medicine.

Diseases of the Skin. Their Description, Pathology, Diagnosis and Treatment, with special reference to the skin eruptions of children and an analysis of 15,000 cases of skin diseases. By H. RADCLIFFE-CROCKER, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital; Honorary Member of the American Dermatological Society; Membre Correspondant Étranger de la Société Française de Dermatologie; Correspondierendes Mitglied der Wiener Dermatologischen Gesselschaft; Socio Onorario della Società Italiana di Dermatologia e Sifilografia; late Physician to the East London Hospital for Children; Examiner in Medicine, Apothecaries' Hall, London. Third edition, revised, rewritten and enlarged. With four plates, two of which contain 12 colored figures, and 112 other illustrations. Octavo. P. Blakiston's Son & Company, 1012 Walnut Street, Philadelphia. 1,400 pages. Cloth, $5.00; sheep, $6.00.

The new third edition maintains the high standard of excellence of the previous edition. The recent progress in dermatology makes an authoritative work upon the subject a positive necessity. It is a safe, accurate, eminently practical and strictly modern treatise, well and clearly written by a man of large experience and most excellent judgment. Though completely scientific, it is written in such a happy manner that the tyro may follow the writer almost as readily as the expert on diseases of the skin. It will be seen, therefore, that it appeals to general practitioners as well as specialists, while to the student it will serve as a valuable guide when he enters upon the more arduous task of practice.

The etiology, symptomatology, pathology and minute anatomy, constitutional conditions, diagnosis and treatment of each disease mentioned is fully entered upon, the therapeutics,

dietetics and general regimen coming in also for their due share of attention, great strength in the accuracy of statement and method and clearness of definition and differentiation being shown. The newer remedies and bacteriological researches, in their bearing upon dermatology, are carefully noted.

The book proves Dr. Crocker to be closely in touch with the work and teachings of modern dermatology; and he has sifted from the vast accumulations of recent literature the facts and opinions which have a definite value and are worthy of permanent record. The illustrations, too, showing as they do the morbid conditions of the different structures affected in diseases of the skin, are a not unimportant feature.

Many valuable additions to the text are noted in the new third edition of this standard work. The whole book has been systematically gone over and numerous changes made where recent progress in dermatology and a more exact knowledge of the subject has dictated. The result is a work every page of which bears the impress of thoroughness and large personal experience. The typography, paper and binding are of the usual good style of the publishers.

Light Energy: Its Physics, Physiological Action and Therapeutic Applications. By MARGARET A. CLEAVES, M.D., Fellow of the New York Academy of Medicine; Fellow of the American Electro-Therapeutic Association; Member of the New York County Medical Society; Fellow of the Société Française d'Électrothérapie; Fellow of the American Electro-Chemical Society; Member of the Society of American Authors; Member of the New York Electrical Society; Professor of Light Energy in the New York School of Physical Therapeutics; Late Instructor in Electro-Therapeutics in the New York Post-Graduate Medical School. With numerous Illustrations in the text and a Frontispiece in colors. 1904. New York: Rebman Company, 10 West 23rd Street, Corner 5th Ave. London: Rebman, Limited, 129 Shaftsbury Avenue, W.C. Sole Representative in Canada, Charles E. Wingate, 2 Richmond Street East, Toronto.

This treatise is the first exhaustive work upon the subject in the English language and the first systematically arranged one in any language. It begins, as any book upon the subject with scientific pretensions must, with the physics, and plain careful instruction is given as to the nature, relations, resemblances and differences of all forms of light of which we have any knowledge, both the visible and the invisible. The characteristics of the various parts of the solar spectrum from the infra-red to the ultra-violet are separately considered as well as their combined action. Then are taken up the varied effect possible with various artificial lights from the plain blue to the varied forces of X-ray phenomena. Next comes a careful scientific summary of the action of all these varied forces upon the different forms from life, beginning with the most elementary forms and gradually ascending the scale through bacteria, the higher forms of vegetable life, the animal kingdom, and, finally,

the action upon the human organism as shown in the effects upon the skin, the circulation, the nervous system and metabolism.

The book is of indispensable value to the skin specialist, because it is the latest and fullest exposition of the new methods of using the various forms of light energy in cutaneous disorders. It is useful to the surgeon, for it shows him how to employ light for the production of anesthesia, and in the treatment of clean and septic wounds. It is of service to the gynecologist, because it aids in the treatment of troublesome inoperable cases. It is of service to the neurologist, because it leads to a better therapy of all curable or improvable nervous conditions, being specially serviceable in neurasthenia, neuritis, neuralgia, tabes dorsalis and other conditions. It is helpful to the general practitioner, since it leads to better results in all chronic troubles as well as in the treatment of the exanthemata, and many malignant disorders.

The Ophthalmic Year-Book. A Digest of the Literature of Ophthalmology with Index of Publications for the Year 1903. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of the Diseases of the Eye in the Philadelphia Polyclinic; Ophthalmologist to the Denver County Hospital, etc. With forty-five Illustrations. Denver, Colorado: The Herrick Book and Stationery Company. 1904.

Dr. Jackson has rendered good service to all physicians interested in the eye, by publishing this year-book. It is an admirable compendium of the advances during the year of ophthalmic knowledge. He gives a digest of the literature on almost every subject, including refraction, diseases of the various portions of the eyeball, the physiology and methods of examination of the pupil, the lacrymal apparatus, general ophthalmology, etc. The illustrations are good and up-to-date. Altogether it is a book to be commended. J. T. D.

The Surgery of the Diseases of the Appendix Vermiformis and their Complications. By WILLIAM HENRY BATTLE, F.R.C.S., Surgeon to St. Thomas' Hospital, formerly Surgeon to the Royal Free Hospital, Hunterian Professor of Surgery at the Royal College of Surgeons of England, etc.; and EDRED M. CORNER, M.B., B.C., F.R.C.S., Surgeon in Charge of the Out-Patients to St. Thomas' Hospital and Assistant Surgeon to the Great Ormond Street Hospital for Sick Children, Erasmus Wilson Lecturer at the Royal College of Surgeons, etc. 210 pages. Price $2.50. Chicago, 90 Wabash Ave.: W. T. Keener & Co. 1905.

This volume, by Battle & Corner, deals with a subject of very great importance in a very lucid way. These authors have reviewed the literature on the subject that has appeared in the hundreds of lesser articles, as well as the larger works of Deaver, Kelly and others. They have based their remarks in this volume on the personal experience of themselves, together

with the opinions expressed by the hundreds of writers on this subject. They take the subject up from its early history till to-day, the chapter dealing with the history of appendicitis bringing the matter to as fine a point as possible. The technique of the operation for appendicial complications is very clearly given, and we like the method with which they treat the stump. We do not find any reference, however, to one of the rarer complications, pylephlebitis; it is a rare complication, but one that is met with frequently enough to be noted in a work of this kind. We would like to see the authors drop the diphthong in spelling, and such words as "adhaesions," "haemorrhage," "toxaemia," "faecal," spelled in the present accepted form. In the second volume we would like to see the index more complete, but these small defects will undoubtedly be overcome and the value of the work enhanced. We can thoroughly recommend it, also the manner in which the publishers have presented the work.

The After-Treatment of Operations. A Manual for Practitioners and House Surgeons. By P. LOCKHART MUMMERY, F.R.C.S. (Eng.), B.A., M.B., B.C. (Cantab.), Demonstrator of Operative Surgery, St. George's Hospital, Late Senior House Surgeon, St. George's Hospital. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. (All rights reserved.)

Mr. Mummery, in his preface to this volume, says: "The after-treatment of operation cases is a subject of such importance that it is not a little surprising to find how little has hitherto been written about it." It has been a deep regret to us in attending surgical clinics to notice that, as soon as the operative procedure was over, the class, or at any rate ninety per cent. of it, took themselves off, leaving the dressing to be done without in any way watching the methods of procedure. Occasional enquiry might be made as to the result, but seldom has the case been seen in the ward, or followed through to its termination. The after-treatment of an operation is the much neglected subject in surgery to-day. The after-treatments by different surgeons vary widely, and it is only by a wide experience and a knowledge of the best methods that ideal results can be attained. We find in this volume everything to commend itself, and do not think we say anything too much when we say that it is one of the works that every operative surgeon should have in his possession. Every recent graduate should have it, and read it before attempting any surgical work. If professors of surgery would pay more attention in their lectures to the after-treatment, it would be much better for their pupils. The profession is undoubtedly under an obligation to Mr. Mummery for this very elaborate and concise work. The publishers have presented the volume very neatly, with clear type and on good paper.

The Treatment of Syphilis. By F. J. LAMBKIN, Lieut.-Col., R.A.M.C., Specialist at the Army Headquarters, India. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1905. (All rights reserved.)

This little volume, by Col. Lambkin, is a vivid description of a large experience. The material that has passed under the hands of Col. Lambkin undoubtedly has been large, and he has made the most of it. It is a strong plea for the use of insoluble mercury treatment, and undoubtedly the subject has a strong advocate in the author. It has not been our experience to meet with exactly similar results. In the use of iodides, however, there may be something in the climatic condition of India that influences the effect there. We think that the treatment of syphilis, or, in fact, many other diseases, differs widely according to the country wherein the treatment is carried out, but we have had such good results with the mixed treatment that we must hold a different opinion to the author. It is a very instructive work, and one that should have wide perusal.

A Manual of Personal Hygiene. By American Authors. Edited by WALTER L. PYLE, M.D. Philadelphia, New York, London: W. B. Saunders. Toronto: J. A. Carveth & Co.

Dr. Pyle's hand-book has been received with general approval, and the second edition is enlarged and improved by the addition of chapters on Domestic Hygiene, Home Gymnastics, First Aid, etc. Seven physicians have assisted the editor in the preparation of this book, which will be found useful by teachers, parents and others. It is written in a clear, forcible and convincing style. The chapters on Digestion and on the Eye are among the best. We do not agree with some of Dr. Courtney's ideas about neurasthenia, but we have little fault to find with the book as a whole.

Miscellaneous.

GLYCO-THYMOLINE AS AN ORO-NASAL AND A GENERAL ANTISEPTIC.

BY DAVID WALSH, M.D.,
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(Abstract from the *Medical Press and Circular.*)

It is only by slow degrees that medical men as a profession are learning to realize the important part played by bacteria in the cavities of the nose and mouth. One sign of this appreciation may be found in the fact that washes and gargles for the mouth and throat are being more and more adopted in everyday practice. The systematic use of such applications, however, so far as the nostrils are concerned, is for the most part still confined to specialists. One reason for this comparative neglect of a simple method of treatment by general practitioners has, no doubt, hitherto lain in the difficulty of obtaining a safe, and at the same time, an efficient antiseptic and cleansing fluid for the mucous membranes in question.

Glyco-Thymoline was brought to my notice as an excellent lotion for nasal and oral sprays and washes. On due inquiry it was found to fulfil the conditions usually recognized by medical men in the United Kingdom as vouching for the character, so to speak, of such a preparation; its composition is not a secret, its formula being freely published. Under these circumstances, I determined to try the effect of this preparation in a few suitable cases. As a general antiseptic fluid that does not coagulate albumen, and is non-irritant, deodorant and practically non-poisonous, Glyco-Thymoline has clearly a wide range of usefulness. My own observations, however, have been practically confined to its use in the nose and mouth, with results that have proved satisfactory in every instance, especially in acute coryza, pharyngitis, influenza and aseptic conditions of the mouth.

In Glyco-Thymoline we have a good, safe application in septic conditions of the mouth, throat and nose. It seems not improbable that in the near future medical men will attend more than they have done hitherto to the mucous membranes of the upper respiratory tract in influenza, measles, scarlatina, chronic and acute coryza, whooping-cough, and other infectious ailments. Post-nasal catarrh—that curse of modern civilization—has never been adequately attacked by the general practitioners. Carious teeth, again, another defect of civilization, are apt to damage the general health considerably. In both these conditions Glyco-Thymoline will be found a safe and effective remedy well worth a careful trial in practice.