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PUBLIC HEALTH IN ITS ETHICAL RELATIONS.*

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Mr. President, Ladies and Gentlemen,—In complying with the request of your committee to prepare an address which might prove of interest to your Association, I have chosen a subject which ought to call forth a full discussion in a circle of such literary culture as I am aware is especially to be found in this church association.

We of this present age possess, I imagine, as each has that preceded it, a good conceit of ourselves, in supposing that we have evolved a special capacity for looking into the heart of things, and for settling offhand all sorts of questions in a manner which those going before us never possessed. Certain it is, however, that the remarkable developments of science during the past century have given us advantages in arriving at just conclusions on many subjects, such as were never afforded to previous generations. But we have only to turn to the works of philosophers of the nations of antiquity to realize that many problems of life were studied with an enthusiasm and clearness of vision which in some respects distances the attainments of the greatest philosophers of modern times; whether such ancient sages were of Babylonia, Egypt, China, Palestine or Greece. Amongst all, the thoughts of their teachers dwelt upon the mystery of being, while all in vain sought out the "Unknowable." In a very

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recent book on "The Ideals of the East," the Japanese scholar Kakasu Okahura, has in a most interesting way indicated "that two mighty chains of forces enthrall the Japanese mind." One is the Asiatic ideal, "replete with grand visions of the universal, sweeping through the concrete and particular, and the other, European science with her organized culture, armed in all its array of differentiated knowledge and keen with the edge of competitive energy." "On the other hand, it has been the outgrowth of the renaissance in Japan, wherein there has been a revival of Shintoism, or a pure form of ancestral worship, older than Buddhism, wherein patriotism has revived through the national religion centring in the emperor, as the descendant of the Godhead;" "and on the other, of that modern eclecticism of Eastern culture, through which Japan possesses that maturity of judgment which makes her select from various sciences those elements of European civilization which she required."

These somewhat academic remarks have been made in order that we may properly discuss the ethical relations of public health, since, as in recent years, we have begun to see that the problem of the preservation of the life of the individual has an interest not alone for himself, but for the family and the State; and that, as it is taking its place amongst the exact sciences, it has become one of the functions of government, whether provincial or national. Placed alongside education, governments, by statutory enactments, are providing that the physical life of the people shall receive its attention equally with the mental; while many of us are prepared, further, to say that education should be but a general term used to indicate the healthy development of the whole man, since no real distinction exists, in fact, between the mental and the physical.

Clearly, then, there is no phase of public health, be it personal hygiene, municipal by-laws or legislative enactments, which has not in its very essence ethical qualities. What do we mean by ethical? Essentially, it means those qualities which distinguish man as a moral being and which relate to his habits and modes of thought and action, as distinguishing him from the lower animals. Not but that they, too, may have codes of ethics; but, nevertheless, they are not ours.

If, then, our definition is correct, we may illustrate by examples the comprehensive character of our subject. The status of a nation is essentially measured by the ethical plane upon which the great majority of its people are to be found. That of Japan to-day is appealing to the admiration of the world; and its basis is to be found in the words of the philosopher already quoted. That of Canadians will be measured by the quality of our acts, personal, social and political, which gives character to

our people as a whole. Where, then, regarding such shall we begin? With the individual, or the nation? Surely with the individual, for society is but a microcosm, made up of its units, combined into a living whole. Shall we start with the child at birth? Surely even prior to this, for in the child is found the germ of all the qualities, physical and mental, of its parents! Clearly, then, the qualities of the parents and the sanitary environment, in its broadest sense, of the mother are of inestimable value and importance to the sanitary future of the child and of the nation. Everyone nowadays is familiar with the fact of living organisms, whether plants or animals, being built up from the individual cell, and of how this divides and multiplies infinitely, each cell being nourished or impeded in its development by its environment, according as this is favorable or the opposite. Evidently, then, as the plant or animal, as we know it, is constantly influenced by air, sunlight and food, so must the tissue-cells, whether pre-natal or post-natal, be daily, even hourly, influenced by their surrounding fluids.

Surely, then, to those who would worthily bear the name of good citizens, who are to be the fathers or mothers of the race, the hygiene of the person, of the home, of the community, is a matter of supreme importance. Time will not permit us to greatly enter upon details as to all that this implies; but it is important to remember that every aberration from the normal in our actions, whether voluntary or otherwise, produces its definite effect, quite measurable if our instruments of experiment be sufficiently delicate. Everyone, for instance, is aware of the dominating influence of mental conditions, not only upon our happiness from day to day, but he further has the personal experience of how the joy of being depends upon a healthy mind in a sound body. Let anyone recall the effect of a worrying day of business, of household cares, or of mental shock from sorrow upon, for instance, digestion and nutrition; of how, on the other hand, a holiday with mental relaxation, change of air and of scene, brushes away the cobwebs from the brain, gives a sense of well-being, causing the blood to course freely through the veins, making him eat, sleep, and take delight in the nature and life around him, and in the very sense of existence, and he will realize that environment is not only an external, but an internal affair, affecting the nutrition of every nerve-cell and every muscular fibre. Can anything, then, be of more importance than that the mother of the life that is to be shall have every influence surrounding her, physical, mental and moral, of the highest, purest and most wholesome character, in order that such may be transmitted as a gift to her offspring? Are these, then, not the most potent reasons why the mothers of our people, in this artificial age, should fully realize that the duties of motherhood

become, in a peculiar sense, those of patriotism, in the sense of the term understood by the Spartan mother who, when asked how it was that the women of Lacedæmon rule the men, replied, "Because we grow men." Is there not, further, an ethical reason why the daughters of our country, instead of thinking, as it is feared too commonly to-day, of only what can afford them evanescent enjoyment and æsthetic pleasure, should rather, both by example and precept, be worthy of their glorious ancestry as the nation-builders of the future? Would that our young people could be raised to a full realization of our national responsibilities, by some patriot poet like Korner, who gave to Germany "The Fatherland's Call to Arms in the Struggle of Liberation," and whose last poem was written as he lay wounded on the battlefield of Kitzen. Heroism, perhaps more difficult, because more prosaic, may still be exercised by us in our everyday duties, and have as high a value to our country as ever were Korner's wild war-songs to his beloved country.

May we now refer to the mother, whose infant, the joy of her life and the blessing of her home, is nestling to her breast, placed in her holy keeping. Here again the same ethical qualities are demanded of her, supported equally in such by the father of the home. Speaking generally, our women, the mothers of our children, are worthy of their ancestry; but it cannot be overlooked that the stress of modern life calls for the exercise of a personal self-denial on the part of many mothers, to which they find it difficult to submit. We have read in recent, and especially in American, magazine literature discussions upon the question of. How many Children ought a Modern Family to include? and we have known female authors, with a mental attitude subversive of all womanly delicacy of sentiment, ignoring all moral responsibility, patriotic duty or religious conviction, boasting of an emancipated womanhood, whose first and last demand is a right to enjoy life, and to eliminate all those home duties and ties, which may in any way inconvenience her in her struggle for the so-called rights of woman, while totally oblivious of those higher rights and holier joys, which have, since the world began, placed motherhood supreme on the throne of honor, and as the shrine of holiest worship.

In such a mental confusion, surely all must agree that we see an exhibition of ethical unsoundness, such as, in its essential nature, indicates a mental and moral degeneracy, which means, if generally accepted, ruin to society, and such a danger to the public well-being as only requires to be realized in order to arouse us to protest against a subversion of the very principles upon which the foundations of any State can permanently be built up. In its essence wholly selfish, it cynically and with vulgar brazenness ignores the dignity and beauty of that altruism which society,

patriotism and the moral status of the people all alike demand, and which is typified in that holiest manhood and highest philosophy, illustrated in the life of the Christ.

This is no mere temporary or passing danger, since, if it should increase, it will emasculate and sap the very essence of those Anglo-Saxon virtues which have caused the race to dominate and rule the world, and which will as surely mark the decadence of the race, as did the crimes, physical, moral and social which rang out the death-knell of Roman greatness, and marked the rise of the Teutonic power. These races, emerging from the German forests, great in their physical strength, with mental powers requiring only Latin culture as a stimulus to their development, transformed the face of Europe, and made its future history, not by superior intellect, but solely from its family virtues, which made society wholesome, and in which the purity and divinity of womanhood were the crown and supreme beauty.

Perhaps, Mr. Chairman, I have referred at undue length to the ethics of public health as involved in the bearing and rearing of the children of our country; but my excuse must be that my training as a physician, my experience as a public health officer, and my work as a student of vital statistics, all, I trust, entitle me to speak on a branch of our subject, which it had been more pleasant not to have discussed.

We now turn naturally to the consideration of the ethics of public health involved in the education of the child as it enters upon its school life. It is of much interest to note that it is at this stage that the State actually assumes a responsibility in the building up of the character of its citizens. Most, indeed all, I think, will agree with me that whatever may be said regarding the inculcation of the tenets of religion in the schools of other countries, in ours at least the education of our children by a school system such as we possess, not only comports with the growth of a spirit of friendliness amongst persons of different creeds, but further furnishes ample opportunities for the education of our children in those ethical ideas which are common to that literature which is the glory of Anglo-Saxon and Teutonic civilization. Speaking especially of those branches of this education which deal with the public health, although in the broader meaning we have given the term there can really be no separation between the physical and mental in true education, we may observe that, until within very recent years, our methods have been those of that older scholasticism which viewed education solely from the mental standpoint and ignored physical considerations. In no direction, probably, has the teaching of public health principles received less practical application than in our public schools during the past twenty years. The tissues of the child, sensitive in the highest degree to good or bad influences,

have been but lightly thought of. Rooms overcrowded, and almost wholly dependent on accidental ventilation, have been the homes for thousands of children for six hours daily, for months and years. The child has, on the one hand, been deprived of the pure air of an outer atmosphere, while subjected at the same time to the debilitating effects of foul air and the infection often borne upon the breath from children suffering from disease. Our death statistics bear ample testimony to the excessive prevalence of contagious diseases in children of school age, as compared with those of younger years. Much, very much, has been done to lessen these dangers by removing the infected when discovered; while but little has been attempted by ventilation to prevent their dissemination through foul air. Similarly, the absence in winter of adequate moisture, through furnace systems of heating, has made the throats of the children to be peculiarly liable to inoculation with disease germs wherever present. Again, the size and location of rooms have caused most serious evils to the eyesight, owing to defective lighting, making a large percentage of children to develop myopia and other forms of defective eyesight. The effects of eyestrain, not only in preventing full advantage to be taken of blackboard work, but also through inducing defective nutrition, are too well known to every physician who has given the matter serious attention. Add to this the overwork demanded by home studies, and it will readily be understood how serious are the effects, both physical and mental, induced by such unscientific procedures. It hence becomes plain that all these conditions have their ethical bearing upon the question of whether or not we are building up a virile race, equipped physically and mentally to take their part in the later battle of life. Were our people, our teachers and our legislators fully sensible of the prime importance of these matters, can there be any question but that more generous expenditures and more scientific methods in the education of our children would prevail? The remedies for these conditions are plain; but it is equally evident that radical changes in some directions are demanded. It has been proved beyond doubt that the child up to ten or twelve years of age cannot have its attention tasked by continuous mental work, beyond two or three hours daily, to advantage; and that a half day in school with the balance spent in play, drill or manual training, is productive of far better results mentally, while that physical insufficiency, which is present or induced in so many children, can thus easily be remedied or prevented.

The value of these hygienic means of education cannot be overestimated. The resistance to disease and to mental and moral defects, which the strong, normally constituted boy or girl possesses, is readily comprehended. The will-power is normal, and under proper direction such a child will delight in whole-

some outdoor exercises and sports, which are the surest defences against unwholesome introspection, deficient sleep, and the development of the several neuropathies incident to youth, and which are the bane of the artificial life of to-day. To be a good animal is true scientific philosophy and good religion; and any system of religion which claims that man's physical nature should be looked upon as of less importance than his mental, that a normal desire for pleasure and the joys of existence are of the devil, and that his body should be scourged and mortified by penances, as those of the eremites of the desert were, is not only an offence against reason, but, moreover, an unholy blasphemy against a Creator who has created man, His crowning work and the glory of the world.

But with our youth grown to manhood and womanhood, as we find them, what have we to say with regard to them? It will be evident that the plane upon which we find them will be the measure of their desire and ability to make and obey public health laws, whether affecting the individual or community at large. We very properly measure our civilization by the extent to which we have made the powers of nature minister to our comfort and happiness. The Indian of the sub-arctic forests, so long as his life is simple and in harmony with his nomadic habits, lives happily and healthfully, and it is only when he settles on a reserve, dwells in a small house on the same location continuously, without a knowledge of the effects of foul air, ignorant of the dangers incident to organic waste and of the diseases which spread from civilized communities, that he does seriously suffer. He has not yet learned the defences which civilized man sets up against these incidents of his environment. We see in this, in broad outline, an illustration of the fact that natural laws violated bring their inevitable punishment; while, on the other hand, the fact that the cultivated intelligence of man has in so many ways found means of defence, is of the highest importance in teaching us that the uplifting of man, physically, intellectually and morally, is only by experience, endeavor, suffering; that the *iter ad astra* is a veritable *via crucis*—the pathway to the stars, a veritable Gethsemane!

I trust I have made my meaning plain. The troglodyte, primitive man, living naturally according to his instincts through experience, avoided, as do the beasts, the dangers of his environment. They preyed upon others, and were in turn preyed upon—a true survival of the fittest. Man advancing developed new faculties, and overcame yet more those dangers which beset him; and thus, by so much, through at times the absence of necessity, neglected the maintenance of those defences to be demanded in some hour of sudden need. Such was the history of the older civilizations of Babylon, of Egypt, of Greece, and of

Rome. Through crimes, first physical and moral, and then political, these nations crumbled to the dust; virility, force, rude virtue ever triumphing over them. Resurrection, renaissance, if they ever came, or ever could come, could only be by the pathway already indicated, by the return to a physical, intellectual and moral norm. The same has been the history of the pathway which public health has followed. Some 15,000,000 persons died of the plague in the fourteenth century. Crowded Europe met a foe she was powerless against through lack of knowledge. Nature's laws, unalterable, worked their fatal cure, and the disease exhausted itself because victims were lacking, or some counter law worked for their salvation. Similarly, the plague which scourged London in 1666 was stayed by the fire, which, in its devouring flames, yet showed a beneficent mercy. Smallpox was, through century after century, the permanent scourge of the world, until the scientific observation and exact experiments of Edward Jenner taught mankind that if Nature was "red in tooth and claw," she yet was kind to those who loved her and discovered her secrets. Half a century later, when man's intellect had been aroused to yet more serious endeavor; after Davy had invented his safety lamp and taught men how to save thousands of lives; after Watt had harnessed the wheels of factories to his steam-engine, and Fulton and Stephenson had learned how to transport their products to all the shores which engirdle the world, a man almost divine in intellect, purpose and goodness, the immortal Pasteur, sought out in his chemical laboratory in Paris, the secrets of life, and in a series of experiments, perfect in their exactness, and conceived by an imagination superhuman in its intensity and clearness of vision, wrested the secret of that multitudinous life of the infinitely small, which has made the last thirty years an epoch in the triumph of man over the forces of disease antagonistic to life, greater than all the centuries and millennia which preceded it. Nature is, indeed, not evil, but benevolent; but Nature must work out her own problems. So must man be true to his mission. Endued with powers which make him a part of Nature, yet made by its Creator to be the head and crown of things: placed on this earth to work out the purposes of Him who has caused man to evolve, through the functions of brain tissue, peculiar to man, those high and yet higher principles of life which operate through the same essential materials as those of the simplest living being, since the complexity of organization and structure in man is but the multiplied functioning of cells, as simple as the lowest protozoan animalcule, we behold in this whole mystery of Nature man given the exalted and single opportunity of overcoming seeming evil by the exercise of his god-like powers, through the purified and developed intellect in all its attributes.

Such are the ethics of public health! Enlarge its popular signification, and it means the study of man in his relations to Nature; enquire into its objects, and we find them comprehending the emancipation of man from the traditions of a crude and uncomprehending past, as regards matters physical, and from a belief in the existence of a pitiless demonism, punishing mankind because they knew not themselves; anticipate its ultimate triumphs, and we behold, with perfect confidence, the time when that which has been called evil shall be as the world, whose Creator, in the morning of time, pronounced it to be good! This shall be when the created, in all his being, physical, intellectual and moral, has become a part of the divine harmony, and when nothing shall be called common or unclean. Then shall be fulfilled the dream of the holy sage of Patmos, who saw a new heaven and a new earth, wherein the Creator beheld himself revealed in the glory of His own creation!

Our hopes, our destiny, our strivings, seem to me very admirably summed up by Browning in his "Paracelsus." Answering Festus, Paracelsus says:

"Be sure that God
Ne'er dooms to waste the strength he deigns impart!
Ask the geier-eagle why she stoops at once
Into the vast and unexplored abyss,
What full-grown power informs her from the first,
Why she not marvels, strenuously beating
The silent, boundless regions of the sky!
Be sure they sleep not whom God needs! Nor fear
Their holding light his charge, when every hour
That finds that charge delayed, is a new death.
This for the faith in which I trust; and hence
I can abjure so well the idle arts
These pedants strive to teach and learn: Black Arts,
Great Works, the Secret and Sublime, forsooth—
Let others prize; too intimate a tie
Connects me with our God! A sullen fiend
To do my bidding, fallen and hateful sprites
To help me—what are these, at best, beside
God helping, God directing everywhere.
So that the earth shall yield her secrets up
And every object then be charged to strike,
Teach, gratify her master God appoints?
And I am young, my Festus, happy and free!
I can devote myself; I have a life
To give; I, singled out for this, the One!
Think, think! The wide East, where all wisdom sprung;
The bright South, where she dwelt; the hopeful North,
All are passed o'er—it lights on me! 'Tis time
New hopes should animate the world, new light
Should dawn from new revealings to a race
Weighed down so long, forgotten so long; thus shall
The heaven reserved for us at last receive
Creatures whom no unwonted splendors blind,
But ardent to confront the unclouded blaze,
Whose beams not seldom blessed their pilgrimage,
Not seldom glorified their life below."

THE GENERAL COURSE OF THE URETER.

BY BYRON ROBINSON, B.S., M.D., CHICAGO.

A.—INTERNAL COURSE.

For convenience of description and practical application in diagnosis or surgical intervention, I shall divide the course of the ureter into general and special. A knowledge of the course of the ureter implies an exact view of its topography, or relations to adjacent structures, for frequently it is purely mechanical accidents or relations of topography which are the cause of the pathologic conditions. This is particularly the case in reference to the ureteral pelvis and the proximal and distal ureteral isthmuses. The chief ureteral therapy is applied to its proximal and distal ends; hence exact knowledge of its anatomical course is a first essential for diagnosis and surgical intervention. The ureter lies in various planes in its general course. We will assume a frontal or transverse plane, and a dorso-ventral or sagittal plane to locate the curves or flexures of the ureter in its course. It describes in its general transverse frontal plane two flexures, viz.: (a) a renal flexure or flexura renalis ureteris, which is produced by the medianward projection of the distal renal pole; (b) a pelvic ureteral flexure or flexura pelvina ureteris, which is produced by the distalward movements of the viscera, due to erect attitude and the curves of the bony pelvis. The course of the whole ureter's cast on the planum transversum would resemble an italic letter *f*. It describes in its dorso-ventral plane curves resembling those of the vertebral column. The course of the whole ureter's cast on the dorso-ventral plane would resemble the letter *S*. The following table shows the general ureteral course in its transverse and dorso-ventral planes :

General course of the ureter.	{	1. Planum Transversalis or Frontalis.	{ (a) Flexura renalis ureteris. (b) Flexura pelvina ureteris. (c) The cast of the ureter on this plane resembles the italic letter <i>f</i> .
		2. Planum dorso- ventralis or sagittal plane.	{ (a) Flexura iliaca ureteris. (b) Flexura pelvina ureteris. (c) The cast of the ureter on this plane resembles the letter <i>S</i> or the curves of the vertebral column.

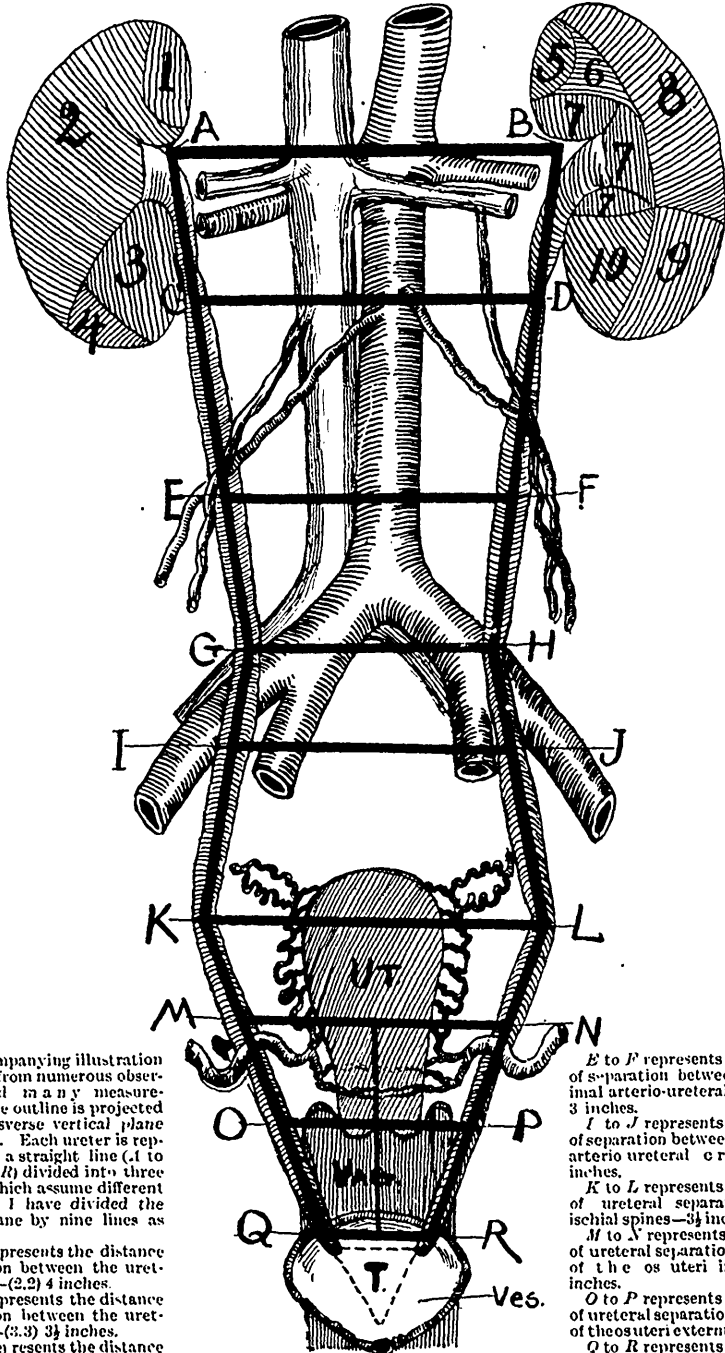
The ureter can be deviated from its general course in certain segments for six inches without loss of integrity. I found in measuring one hundred and fifty ureters that the average length was eleven and one-half inches. The left ureter was about one-

half inch longer than the right. The general ureter describes in its course three important curves or flexures, which lie in different planes, viz.:

(a) *Flexura renalis*, or the bending of the proximal end of the ureter over the distal kidney pole. The concavity of this ureteral curve is practically laterally external. This is one of the most important ureteral curves or flexures, as it involves two practical matters; it is near the narrow proximal ureteral isthmus or neck, the flexion or torsion of which obstructs the urinal flow (hydro-ureter), and also ureteral calculi are apt to become obstructed by the narrow ureteral neck.

(b) The second curve or flexure I shall designate as the *flexura iliaca*, produced by the projection against the ureter of the vasa iliaca in the erect attitude. This is an important curve or flexure, on account of its proximity to the ventral abdominal wall, and the possibility of detecting it by palpation.

(c) The third ureteral curve or flexure is the *curvatura pelvina*, the ureteral elbow, formed by following the lateral pelvic wall and bending toward the bladder, due to erect attitude. The pelvic curve of the ureter, *curvatura pelvina ureteris*, depends to a large degree on the contracted or distended condition of the bladder. By maximum distention of the bladder the pelvic ureteral flexure becomes almost a right angle. In short, the ureters converge in their course from the kidney to a point immediately proximal to crossing of the vasa iliaca of the proximal arterio-ureteral crossing. They then rapidly diverge to the spina ischiadica, the ureteral elbow, after which they again converge to the bladder. At the level of the os uteri externum the ureters are separated about two and a half inches. The ureter, as it courses by the os uteri externum, is about one inch from the bladder wall. In fetuses and infants several curves may be noted in the lumbar ureter, and some in the iliac and pelvic portions. About half the course of the ureter lies in the abdomen and half in the pelvis. The course of the ureter is the tract or bed it occupies in passing from the kidney to the bladder. Their course, unlike that of a railway track, is not parallel to each other. The ureters in their course twice converge and twice diverge from each other. The ureters course through regions occupied by many and varied organs. The ureter begins at the calyces on a level with the first lumbar vertebra. It passes medianward obliquely over the surface of the psoas muscle, where on a level (left) with the fourth lumbar vertebra it crosses dorsal to the vasa ovarica (*the proximal arterio-ureteral crossing*), forming an acute angle with these vessels. From the apex of the ureterovenous triangle it passes with a slight median curve over the ventral face of the psoas to the iliac vessel. The major lumbar



The accompanying illustration I sketched from numerous observations and many measurements. The outline is projected on the transverse vertical plane of the body. Each ureter is represented by a straight line (1 to Q and B to R) divided into three segments which assume different directions which I have divided the ureteral plane by nine lines as follows:

A to B represents the distance of separation between the ureteral pelves—(2.2) 4 inches.

C to D represents the distance of separation between the ureteral necks—(3.3) 3½ inches.

G to H represents the distance of separation between the closest approach of lumbar ureters—2½ inches.

E to F represents the distance of separation between the proximal arterio-ureteral crossings—3 inches.

I to J represents the distance of separation between the middle arterio-ureteral crossing—3 inches.

K to L represents the distance of ureteral separation at the ischial spines—3½ inches.

M to N represents the distance of ureteral separation at the level of the os uteri internum—2½ inches.

O to P represents the distance of ureteral separation at the level of the os uteri externum—2 inches.

Q to R represents the distance of ureteral separation between the distal and vesical orifices—1 inch.

FIG. 1.

spindle of the ureter lies on the psoas muscle. The ureter in the majority of subjects lies in the groove (left), between the external and internal iliac vessels. This is the important topographical point in the course where the ureter passes from the abdominal segment into the pelvic segment. I shall designate it as the *flexura iliaca ureteris*. The course of the ureter now lies in the pelvis, along the lateral pelvic wall to or near the region of the ischial spine, whence it bends, becoming the ureteral elbow. It then enters the ligamentum latum and crosses dorsal to the uterine artery (*the distal arterio-ureteral crossing*), which occurs on a level with the os internum, whence it bends medianward and ventralward, passing about one-half inch from the cervix. The ureter is separated from the cervix by the parametrium, containing the uterine artery and plexus utero-vaginalis and plexus vesico-vaginalis venosus. Both venous plexuses are united and imbed the ureter in their network or organs. It is important to know the relation and course of the ureter to the uterus, vagina and rectum. The ureter passes one-half inch from the cervix and in contact with the lateral and anterior vaginal fornix. In vaginal hysterectomy the ureter may be wounded or severed. I know of quite a number of cases where the ureter was injured in both abdominal and vaginal hysterectomy. I witnessed one abdominal hysterectomy where the operator actually severed both ureters. In this case the ureter was distorted in its course by ovarian tumor. Also tumors intra- or extra-rectal will disturb the relation of the ureter to the rectum. The importance of the course of the ureter to the bladder is evident, especially in hysterectomy. Since the ureter, a flat, sinuous, membranous cylinder, is longer than the distance between its renal pyramids and the vesicle trigone, it must assume a winding course. One can draw the ureter through an abdominal incision without destroying its integrity. Its course is in a vast mobile connective tissue bed. In fetal and childhood life I have observed the ureter in a sinuous course similar to that found in the oviduct. The ureter assumes a course medianward, obliquely proximally, and obliquely distally. The two ureters in general converge from the origin, at the renal pyramids to the termination at the external angle of the vesicle trigone. The course of the ureter is never extended or straight. The ureters converge toward each other twice, once in the lumbar region and once in the pelvic, and diverge from each other twice, once in the lumbar region and once in the pelvic. The convergence of the ureters is, no doubt, due to growth, distalward movements of viscera and the erect attitude. The ureter in its entire course lies in a universally loose bed of subperitoneal areolar tissue. The ureteral course is not fixed

at any point, however; it is more mobile at some points than others. It shows in the wide range of motion of the segments of the tractus urinarius and genitalis. The mid point of the course of the ureter may be mapped on the abdominal surface by

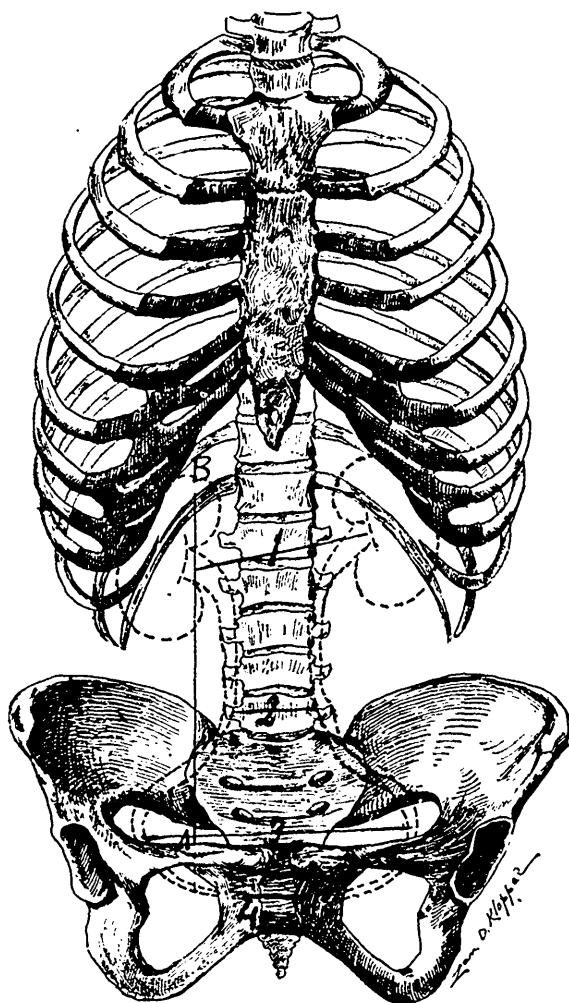


FIG. 2.

Represents the skeletal course of the ureter. (1) Distance between ureteral pelves, 4 inches; (2) Line between ureters at 5th lumbar vertebra, 2½ inches; (3) Line noting widest separation of pelvic ureters, 3 inches; (4) Line between distal ureteral orifices. A and B represents line of ureter.

making a point midway between the xiphoid appendix and symphysis pubis, and passing to the right or left one and a half inches. The general body surface course of the ureter may be observed by placing a perpendicular plane at the junction of the internal

and middle thirds of the ligamentum inguinale (Poupart's ligament). This plane will correspond almost exactly with the general course of the ureter. Practically the ureter courses along the external ends of the transverse process of the third, fourth and fifth lumbar vertebræ. The ureter in its entire course is extra-peritoneal, and is located between peritoneum and abdominal wall. The left ureter lies nearer the vertebral column than the right. A reliable bony outline for the course of the ureter is the twelfth rib, two inches from the vertebral spine; the external ends of the third, fourth and fifth transverse processes, the sacro-iliac joint and the ischial spine.

B. EXTERNAL COURSE.

(a) *Ventral Abdominal Wall.*—This is the course of the ureter corresponding to the external surface of the body. Since the valuable introduction of the X-ray in the diagnosis of ureteral calculi the course of the ureter has assumed general interest. The course of the ureter as projected on the external body surface is becoming of value in diagnosis and surgical intervention. One can mark approximately for practical purposes the outline of the course of the ureter on the surface of the abdominal wall. It cannot be marked mathematically exact, as there always arises the individual anatomic variation, the personal equation. The ventral abdominal wall is very variable in its condition. In the course of the ureter it is important to know the location of three points, viz., the proximal, middle, and distal isthmuses, as calculi are liable to lodge at the three named points, besides the middle and distal isthmuses are palpable. To determine the course of the ureter on the abdominal surface draw a line (AB) parallel to the trunk axis from the junction of the inner and middle third of Poupart's ligament to the twelfth rib. This line marks practically the external course of the renal, lumbar and iliac segments of the ureter, in short it practically marks the course of the abdominal segment of the ureter. Most of the pelvic segment of the ureter (all of the lateral pelvic and part of the pelvic floor segment) will be external to the vertical line (AB).

To mark on the abdominal surface the corresponding location of the proximal ureteral isthmus or neck, the point of the most frequent obstruction to calculi, draw a line (CD) at the level of the twelfth rib, and perpendicular to the first line (AB). The point of meeting (X) of the two lines (AB and CD) will be about two inches proximal to the proximal ureteral isthmus.

To mark the course of the pelvic ureter on the abdomen, one practically follows the outline of the proximal brim of the lesser pelvis, which is easily palpated.

To mark the middle point of the abdominal segment of the

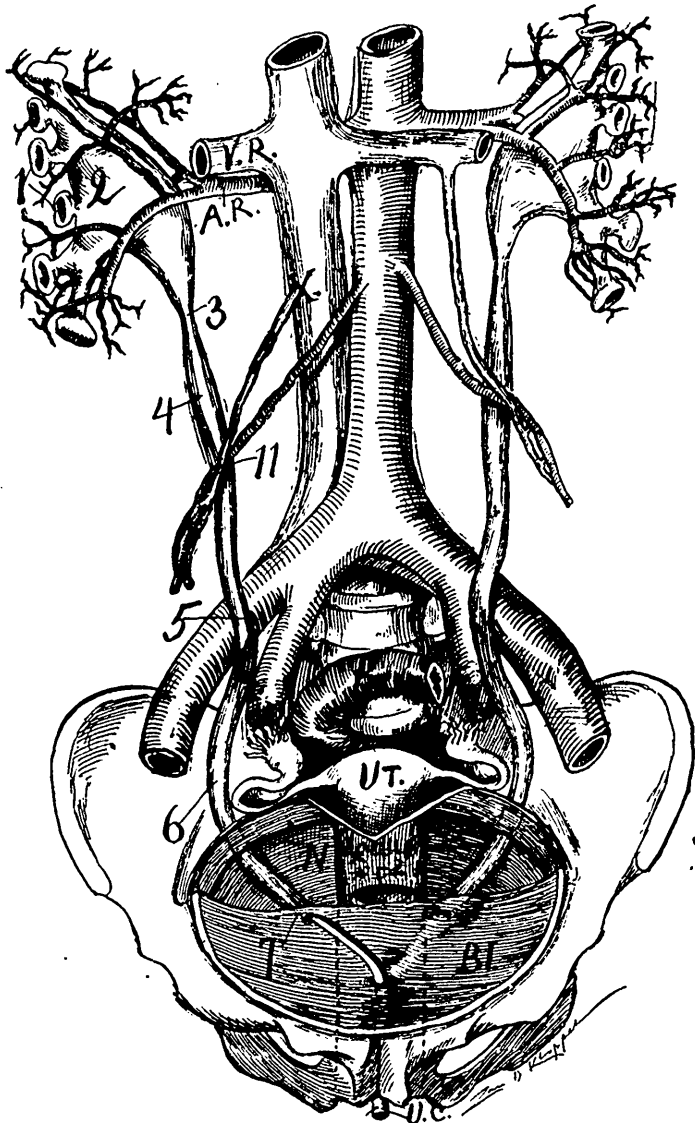


FIG. 3.

Represents the ureter in its general course; also it shows relation with peritoneum.

ureter, *i.e.*, the ureteral segment lying between the calyces and the entrance of the ureter into the lesser pelvis, draw a horizontal line (EF) midway between the distal end of the xiphoid process and the proximal border of the symphysis pubis. The middle point of the abdominal ureter will lie approximately at E.

and F, according to the size of the subject, one to one and a half inches lateral to the median trunk line.

The most important point of ureteral location as regards the external surface is the point of entrance of the ureter into the lesser pelvis; in other words, the iliac segment of the ureter. At this point the ureter lies practically on a bony bed, which is projected closely adjacent to the ventral abdominal wall by the vasa iliaca and hence may be palpated. The pulsation of the vasa iliaca aids in determining this point. To establish the course of the iliac segment of the ureter on the abdominal wall draw a line (GH) from one anterior superior iliac spine to the other, and divide it into three parts; the points (I, J) of intersection will represent the curve of the iliac segment of the ureter on the abdomen. The distance of separation of the ureters at this point (segments two and one-half inches) is the same as the distance of separation of the anterior superior iliac spine (G and F), from the intersecting lines (I and J, two and one-half inches). Hence the course of the ureter, as marked on the abdomen, is two and one-half inches internal to the anterior superior iliac spine.

In palpating for the iliac segment of the ureter one palpates more proximalward than this point (Y), as the abdominal wall yields easier and with wider range toward the middle of its length.

Another method to locate the iliac segment on the abdominal surface is to draw a line (GT) from one anterior spine to the other, after which draw a second perpendicular line (KL) to the first (GF). The junction points of these two lines (GF and KL) will lie about one inch internal to the iliac segment of the ureter, as marked on the abdomen.

(b) *Dorsal Abdominal Wall.*—The course of the ureter as projected on the external surface of the dorsal wall is comparatively of less value in diagnosis or surgical intervention, as it is deeply seated with bony protection and not accessible to palpation. However, it is of value in determining the location of a calculus in X-ray shadows. The separation of the course of the ureters is the same ventrally and dorsally at the important point, viz.: Proximal ureteral isthmuses (four inches), middle isthmuses (two and one-half inches), and distal isthmuses (one inch). If one draws a vertical line on the skin one and one-half inches lateral to the lumbar spinous process—in other words, a line drawn on the skin one and one-half inches laterally parallel to the lumbar spines—it will practically cover the abdominal (renal and lumbar) and iliac segments of the ureter. The ureter should be sought at the external end of the transverse process of the second, third, fourth and fifth lumbar vertebrae. Also, a line on

the skin from the sacro-iliac joint to the tip of the ischial spine represents the major course of the lateral pelvic ureter.

(c) *Lateral Abdominal Wall.*—The projections of the ureters on the lateral trunk wall practically correspond with the lateral lumbar column or approximately the axillary line.

THE ROUTE OF ACCESS TO THE URETER.

There are three routes to the course of the ureter for inspection, diagnosis or surgical intervention, viz., two extra-peritoneal:

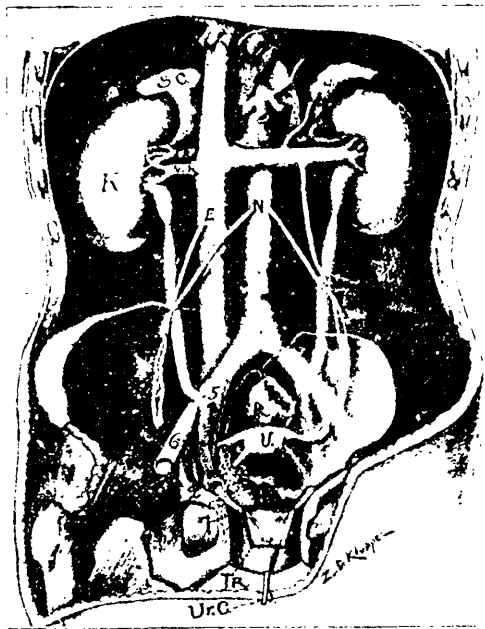


FIG. 4.

Ureter in its general course. Proximal ends of ureter from my corrosive specimens. Ventral view showing vascular relations of ureteral pelvis (2) and calices (1). Note how vascular is the ventral surface of the ureteral pelvis. Observe the proximal wrrd bifurcation of the iliaea communi8. U C shows a catheter in the ureter.

(a) the lumbar (iliac and supra pubic), and (b) the vaginal; and one intra-peritoneal.

(a) *By lumbar, iliac and supra pubic*, extra-peritoneal incision, one can inspect, and palpate the ureter from the ureteral pelvis to the urinary vesicle wall. The ureter with the peritoneum must be forced medialward. In operations, accompanied by extreme peritoneal adhesions, I have isolated the ureter free from adjacent viscera and peritoneum for six inches (from proximal arterio-ureteral crossing to bladder) without destroying its integrity.

(b) *By a vaginal incision* one can inspect and palpate the pelvic floor segment of the ureter and remove calculi.

(c) *Intra-peritoneal* access to the course of the ureter is easy of execution, however, frequently accompanied by jeopardizing conditions as regards peritoneal infection and the vascular integrity of the ureter itself and adjacent viscera. On entering the peritoneum one observes the ureters in their course shimmering through the dorsal peritoneum like white bands in direct contrast to the red arteries and blue veins.

URETERAL SURGERY.

Ureteral surgery will be limited, because the course of the ureter is extremely well protected. It will also be limited, because the only safe ureteral surgery is ureteral anastomosis or implantation of the ureter into the bladder (or some segment of the tractus urinarius or genitalis.) The direct implantation of the ureter into the tractus intestinalis is not justified by experiments. The course of the ureter might be safely changed by diverting it into the gall bladder, the patent umbilicus or into some segment of the genito-urinary tract, as the urachus, obliterated hypogastric arteries, oviduct, vagina. It might be justifiable to insert the ureter in the appendix, or into a rectum with an artificial anus proximal to it—all having their advantages and disadvantages as regards progressive infection or strictural cicatrization. The ureter may be isolated free for six inches, and retain its integrity if replaced in its original areolar tissue bed. The safest ureteral surgery is performed extra-peritoneally with several days' drainage for primary wound secretion. The ureter should be attacked in its spindles for ample wall or lumen.

THE MANAGEMENT OF VALVULAR DISEASE OF THE HEART.*

BY R. D. MOORE, M.D., CENTRAL, MO.

VALVULAR disease of the heart consists primarily of alterations in the valves or valvular orifices rendering the former incapable of properly closing the openings, or contracting the latter in such a manner as to interfere with the normal passage of the blood, producing regurgitation and obstruction respectively. These lesions are the result of an endocardial inflammation which, in turn, is usually secondary to some systemic disease, particularly rheumatism and the acute infectious diseases. Prolonged muscular strain is an important etiological factor in the young and middle-aged, sclerosis of the aortic valves often resulting from occupations necessitating great muscular exertion. Of the chronic diseases, syphilis, gout, chronic Bright's disease and alcoholic excess are instrumental in causing valvular disease. In the elderly, chronic endocarditis is the result of atheromatous or fibroid changes. Endocarditis is usually masked by the symptoms of the disease causing it, and may be easily overlooked until disturbances of the circulation direct attention to the heart.

The first step in the development of valvular disease, or chronic endocarditis, is hyperemia from congestion of vessels beneath the endocardium, with considerable swelling of the valves. There is an exudation of lymph and serum beneath, and on the free surfaces of the membrane covering the valves and chordal tendinae. This results in a roughening of the surfaces and agglutination of the valves to each other or to the walls of the heart or blood vessels. Or a proliferation of endocardial connective tissue takes place and around these the warty growths or vegetation are formed, which, with deposit of fibrinous elements from the blood, prevent proper coaptation of the valve segments. Endocardial inflammation is usually limited to the left side of the heart in the adult, but during fetal life the reverse is the case. This explains why the mitral and aortic orifices are more frequently involved than the tricuspid and pulmonary valves, as disease of the latter is in the great majority of cases congenital.

The effect of the various lesions is practically the same, viz., hypertrophy of the heart structure and dilatation of the chambers. Usually this change takes place gradually, and functional loss is overcome by the reserve cardiac force, which in time is sus-

* Read at meeting of the St. Louis County Medical Society, September, 1903.

tained by increase in the muscular structure, Nature's effort to maintain equilibrium. Thus hypertrophy ensues, and the functional loss is said to be compensated. The hypertrophied organ, while exerting more actual force than a normal heart, has less power to accommodate itself to extra work, the reserve force being almost entirely utilized, even when the body is comparatively at rest. Thus, as the heart in valvular disease has to do nearly a maximum amount of work at all times, it is obvious that there will come a time when the muscular structures become exhausted, unable to comply with any extra demand, and compensation is said to be broken or ruptured.

If the reserve force gained by compensatory hypertrophy be only temporarily lost, the exhausted heart muscles recovering quickly, the condition is spoken of as disturbed compensation, broken compensation being applied to a continuous process. By placing the patient with disturbed compensation at complete rest, and resorting to appropriate remedies, the physiological balance can occasionally be restored in a short time. The break in the compensatory process may come on gradually or suddenly. In the latter case, death usually results at once from sudden dilatation of a ventricle or thrombosis in the coronary circulation.

The first indications of broken compensation are shortness of breath, with attacks of nocturnal dyspnea. Cough and dyspnea follow from pulmonary congestion and bronchitis. Irregular pulse occurs with dilatation of the heart. Cyanosis, venous stases, and usually dropsical effusion set in, beginning in the feet and extending upward; the abdominal cavity becomes filled, the liver congested, the urine scanty and albuminous; the patient finally dies with a general anasarca, or progressive dilatation of the heart occurs with death from asystole. The dropsical effusion varies greatly in different cases, and may not occur at all, but more or less edema is usually observed.

The prognosis of valvular heart disease is often a difficult question to decide, and is entirely one of compensation, for so long as this is maintained the function of the heart may be little disturbed, and the patient suffer slight, if any, inconvenience. Physicians considering the serious aspect, and knowing that an anatomical or organic change has taken place in the structures, are apt to underestimate the value of any line of treatment, and regarding the case as hopeless content themselves with a diagnosis of valvular lesion, and ignoring the state of the blood vessels and secretory organs, prescribe a specified dose of digitalis, and like Micawber "wait for something to turn up;" usually the loss of the patient. Again, the physician endeavoring to decide which valve is diseased is apt to neglect noting the condition of the heart muscle. After making the diagnosis, and observing secondary

effect on the entire physical mechanism, it is of no less import to ascertain the condition of the ventricular and arterial walls, observing carefully the force of the pulse and the tension in larger vessels. If possible, ascertain the condition of the coronary, for upon this will often depend the dosage of digitalis. This drug, so prominent in the treatment of cardiac disease, improves the nutrition of the heart muscle by improving the circulation in the coronary arteries. If these small arteries are in a more or less atheromatous condition, or nearly closed, more harm than benefit will arise from the administration of digitalis, it being impossible for the heart to force any increased quantity of blood through the diseased arteries. Again, if the heart muscle itself is degenerated, digitalis, if administered in the usual manner, will not as a rule improve the myocardium, for by subjecting the remaining healthy fibres to increased stimulation it may exhaust what little resource is left, and sudden death may terminate the case.

After determining the above conditions in reference to the heart, attention should next be directed to the kidneys. Repeated examinations of urine as the case progresses give more information than a single examination. Estimates of the percentages of albumin and urea, of the quantity and specific gravity, should be carefully made. These records not only aid in revealing probable conditions of the heart and blood vessels, but also indicate the ability of the kidneys to eliminate toxins and the drugs administered, the cumulative action of digitalis sometimes producing toxic effects. This alone demands careful attention being paid to the kidneys, as the urine is reduced in quantity when the system is intoxicated with digitalis.

The important point to bear in mind in treating valvular lesions is that the disease is associated with a period of progressive development, during which medicinal treatment directed to the heart is not indicated, and a period of breaking down or uncompensation. If compensation be progressive or complete, regulation of the bowels, kidneys and digestion, with careful instructions in regard to light exercise, will aid in the establishment of the compensatory process. Advise the patient to so regulate his habits that he will have evacuation of the bowels each evening, shortly before retiring. This relieves the portal system, eases the circulation, and will prove beneficial as the heart has only to propel the blood through the vessels on a level, and the extra reserve force is not called into action, thus procuring additional rest for the over-exerted organ.

At the first indication of a continuous break in the compensatory process, manifested by shortness of breath, especially nocturnal dyspnea, cough, with edematous extremities, place the patient at complete rest, regulate the secretions, and administer remedies

directed to the relief of the distressed heart and impeded circulation. Digitalis is now indicated; it supports the heart and maintains a steady, equal capillary circulation. There has been some discussion among authorities in using digitalis for the various lesions, particularly regurgitation. Osler states that "broken compensation, no matter what valve lesion may exist, is the signal for its use. The beneficial effects are best seen in cases of mitral disease, with small irregular pulse and cardiac dropsy. Its effects are not less striking in dilatation of the left ventricle, in the failing compensation of aortic insufficiency or of arterio-sclerosis. On theoretical grounds, it has been urged that its use is not so advantageous in aortic insufficiency, since it prolongs the diastole and leads to greater distension. This need not be considered, and digitalis is just as serviceable in this as in any other condition associated with progressive dilatation."

The reverse of this doctrine is argued by Porter (*Med. News*, May, 1902). He states that "in aortic lesions, either in incompetency or stenosis, there seems to be no good reason for using digitalis at any stage. Certain it is that in aortic regurgitation the increased systolic stroke cannot freely compensate for the prolonged diastolic period, and the longer time during which regurgitation can take place. Added to this are the increasing arterial tension, with its greater resistance in front of the heart, and the progressive cutting down of the nutritive supply (?) to the heart muscles, both of which, or either one alone, would be sufficient to contraindicate the use of digitalis in aortic insufficiency.

"In aortic stenosis the augmented cardiac systole might for a time force a larger volume of blood into the aorta, thus temporarily improving the conditions, but the increased work of the cardiac muscles, together with the poisoning effects of the digitalis upon the muscle fibres, and the progressively diminishing nutrition, will soon be followed by a deterioration of the cardiac muscle with an aggravation, instead of an amelioration, of the symptoms. Digitalis is of service only for a few days at a time at the longest. It should only be given to influence the heart and circulation when the arteries are very much relaxed, or systemic veins overfilled with blood. In such instances as these, it will tighten up the vessels and, by augmenting the power of the systole, will force a larger volume of blood into the arterial system. In this manner the surplus of blood can be pumped, as it were, from the venous system into the arterial. This accomplished, the digitalis should at once be stopped, and more reliable remedies used to maintain the heart in circulation. To use digitalis outside of these narrow confines, when there are so many safer and more reliable remedies is, to say the least, extremely poor therapeutics."

So much for the negative theory. In the treatment of cases,

some of which are reported below, I have followed the teaching of Osler, prescribing digitalis regardless of the lesion, provided the heart muscle is not so much degenerated as to be unable to cope with the increased stimulation. However, as in the latter theory, I have always reduced this dose as soon as possible, but as yet have not found any remedy which could be substituted completely for the digitalis, and produce the same results as far as specific action on the heart is concerned.

Strychnine is very useful, and, in some cases, seems to act better than digitalis. It is a heart tonic of great value, but its action is not as permanent as digitalis, and usually recourse to the latter has to be finally made. There is no doubt, however, that the administration of this drug is overdone. Professor H. Hare (*Therapeutic Gazette*) states that "Digitalis, like iron, has proved itself so valuable, doing good in so many instances which seemed grave, that we are wont to forget that, like most things which do good, it can also do harm, and, judging from my previous habit, and from the habit of other practitioners, I am convinced that in the great majority of instances, digitalis is administered in doses which are much too large, and often continued over a period which is far too long. It is by no means an uncommon thing to find physicians administering as much as ten, or even twenty, minims of tincture of digitalis three or four times a day in cases of marked rupture of compensation. There can be no doubt that in some cases such doses are necessary at the beginning of the treatment to meet the crisis which exists, and in much the same way that we are wont to give large doses of mercury in early syphilis, afterward cutting the dose down one-half, so it may be necessary at times to give massive doses of digitalis which, after a period, should be rapidly and considerably diminished."

This is undoubtedly correct therapeutics, but it often happened that after reduction of the aforesaid drug using three or four minims three or four times a day, the conditions and symptoms, instead of remaining stationary or ameliorating, grow progressively worse, particularly venous stasis with edema being observed.

Of late, I have not depended on digitalis for its diuretic action in reducing dropsy, but have resorted, in addition, to agurin, with excellent results in most instances.

Agurin is a synthetic product, the double salt of theobromine sodium and sodium acetate. Theobromine itself is a diuretic of value, its action being similar to caffeine, but it is superior to that drug as no toxic phenomena are produced upon the heart even from large doses. Gram, of Copenhagen, experimented extensively with pure theobromine, but found that its insolubility prevented uniform absorption. This led to further investigation.

and a salt was produced with sodium salicylate. Gram obtained excellent results from this drug, producing free diuresis in cardiac and renal affections. His observations were confirmed by other clinicians. However, the salicylic acid in the drug proved more or less a gastric irritant, and, according to some observers, retarded the diuretic action of the theobromine.

Impens, of Destree's clinic, Brussels, convinced of the efficiency of theobromine, and desiring to eliminate the objectionable features in the double salt mentioned above, made further investigations, and combined theobromine with a number of acids, finally deciding upon a combination with sodium acetate. This double salt, or agurin, produces increased diuresis, whenever a dropsical effusion exists, particularly that depending upon ruptured compensation in valvular lesions. Used in connection with digitalis, the urinary flow increases, and the dose of digitalis may be greatly reduced, depending entirely on the agurin for the diuretic effect. The administration of both may then be continued for a long time without any cumulative or toxic effect.

To illustrate the above the following cases are reported:

CASE 1.—F., gardener, 60 years old, addicted to alcoholics, brandy and absinthe, when he can get them. Diagnosis: Mitral insufficiency, hypertrophy of the heart, with dilatation and broken compensation. Passive congestion of the organs, venous stases, edema of legs, and genitalia. Pulse regular, feeble and rapid. Cough, dyspnea, and attacks of nocturnal orthopnea. Urine scanty, averaging fifteen ounces per day. Specific gravity, 1.030; no albumin or sugar. Treatment: The bowels being sluggish, one-grain doses of calomel were given every hour for four doses in the evening, followed the next morning by a saline cathartic. Calomel has a diuretic action, and the saline exerts a favorable effect upon the congestion of the internal abdominal organs, and renders absorption of other drugs more complete. Digitalis, two and one-half drachms of the infusion, with fifteen grains of benzoate of ammonia, and one drachm of sweet spirits of nitre were administered every three hours. The pulse became slower and fuller after twenty-four hours' treatment and breathing better. The urine increased to forty ounces, and the next day to fifty-five. Specific gravity much lower. The dose was reduced after the second or third day, the same amount being taken three times daily. The edema of the legs subsided with general improvement. The urine diminished to 25 or 30 ounces daily. A month later there was recurrence of the edema of the legs and scrotum. I placed the patient on five drops of tincture of digitalis, three or four times daily, and began using agurin in fifteen-grain doses, three times a day. The quantity of urine increased from fifteen ounces to an average of fifty-five per day. The

edema rapidly subsided with amelioration of other symptoms. The patient is now on this expectant plan of treatment, the digitalis being stopped occasionally, and as small a dose given as possible to support the heart. The agurin is well tolerated, and increases the urinary flow promptly, causing rapid absorption of the serous infiltration. It is true that death in this case is not far distant, but the relief afforded from the above plan of treatment is beneficial and grateful to a distressed patient.

CASE 2.—Man, 55 years old, with a history of rheumatism. Diagnosis: Aortic regurgitation, hypertrophy and dilatation of the heart. Before the break in compensation occurred, symptoms of excessive hypertrophy distressed the patient—headache, dizziness, pulsating carotid, and some precordial distress. He had taken treatment for this, and was progressing favorably until an attack of rheumatism aggravated the trouble, and probably involved the mitral orifice. Ruptured compensation came on shortly after the rheumatic trouble subsided, with death following six or eight weeks later. The point in the treatment was the control of the edema until the last week of the patient's life. Dropsy of the legs was marked, the hands and face were puffed and pitted on pressure. Cough and marked dyspnea were present. The urine was very scanty, less than fifteen ounces daily, the blood pressure being very low. Tr. digitalis, fifteen minims, was prescribed every three hours, with fifteen gr. agurin in capsules. The first dose of the latter given in powder form was vomited, but the capsules were usually retained, some nausea being experienced after taking them. The blood pressure was raised by digitalis; the pulse became fuller and more forcible. The urine was greatly increased, the daily quantity being nearly sixty ounces. This gradually dropped to thirty or forty ounces daily. Edema of the feet and legs subsided, the skin having a wrinkled appearance. Breathing became better, with fewer attacks of orthopnea. Treatment was continued—tr. digitalis three or four drops a day with ten grains of agurin. This controlled the dropsy nicely, producing a steady, equal flow of urine daily. During the last week or two its action became less marked, probably due to non-absorption and progressive dilatation of the heart.

CASE 3.—Boy, 16 years old, of a decidedly neurotic family, one brother having asthma, and a sister under treatment for hysteria. The patient had chorea, coincident with an attack of rheumatism. There is a close connection between chorea and rheumatism, and even in mild cases, endocarditis is a common sequel, the injury to the heart occurring before the seriousness of the disease is recognized or proper treatment begun. In this case the heart had undoubtedly been damaged, rendering the

patient a semi-invalid for the past four years. He had been well taken care of and compensation sustained the heart. Sub-acute attacks of initial disease, with a slow progressive endocarditis, resulted in marked injury to the mitral valve. Dilatation of the ventricle followed with all the concomitant symptoms, viz., weakness, dyspnea, and cough. The face was puffed and the legs were edematous. The urinary flow was scanty and highly acid. Treatment: The following prescription was given: Ammonii benzoat, three drachms; aquæ destil, q. s. ft. sol.; Spts. etheris nitrosi, four drachms; infus. digitalis, three ounces; simp. elix. q. s. ft., six ounces. M. Sig. One tablespoonful every three hours.

This stimulant diuretic mixture had a favorable effect on the heart and kidneys, increasing the urinary flow from twenty to thirty ounces, but the effect was temporary, the edema returning. Agurin in fifteen-grain doses was now given and small doses of tinct. digitalis to sustain the heart. An increase in urine to forty ounces took place, the amount remaining nearly stationary with the edema subsiding. General improvement occurred in the entire system. The drug was well tolerated, and exhibited no secondary effect whatever.

CASE 4.—Man, 55 years old. History of syphilis; arteriosclerosis, emphysema, and lesion of the aortic valve. Edema of the lower extremities and constant dropsy were present. The urine was scanty; the blood pressure low, although tension due to arterial hardening in the radial artery gives the impression of high pressure. The usual plan of treatment—digitalis, iodide of potash and agurin—was resorted to. The latter was given in ten-grain doses every four hours, with marked increase in the urine, and corresponding improvement in the dropsy. I cannot give the actual quantity of urine, as the patient failed to keep it for measurement. Agurin was continued in five to ten grain doses three times a day for a month, with no irritating effect. Dropsy was controlled nicely. The patient is now on the above plan of treatment, and is doing as well as can be expected, considering the seriousness of the lesions.

In conclusion I would state that while heart lesions are incurable, the proper selection of remedies and care of a case, which upon first inspection seems hopeless, not only relieves the existing distress, but will place the case on a sounder basis, a condition in which threatening or sudden death is not to be expected, and at least make life bearable. In the cases reported, while they may take an unfavorable turn at any time, the relief and improvement under the plan outlined has been marked. In cardiac dropsies, agurin has produced positive results, and its freedom from toxicity and irritating effect renders it a valuable drug to treat these cases. Prompt action on the kidneys, eliminating the increased

quantity of urine, causes rapid absorption of serum in edematous tissues. Its use in conjunction with digitalis may lead one to think the diuretic effect is due to this drug. However, in actual test (see Cases 1 and 3) agurin, given after digitalis had been used some time, rapidly increased the urinary output, thus proving its action is decidedly more diuretic than digitalis alone. Agurin, used in dropsical conditions secondary to kidney disease, does not prove equally successful. The physiological activity of the kidney must not be seriously impaired if it is to exhibit any favorable results, according to most observers.

A CASE OF FRACTURE OF THE PATELLA TREATED BY THE OPEN METHOD.

BY HERBERT SMITH, M.D., BURIN, NFLD.

AN article entitled "A Plea for the Open Method of Treating Fracture of the Patella," by Dr. F. N. G. Starr, in the March (1903) number of the *JOURNAL*, impressed me very much. On May 25th, I was called to see a fractured patella, but as the man lived six miles from here, I persuaded his friends to bring him to Burin. Having thoroughly cleansed the knee and the vicinity on the evening of the 26th, I operated on the 27th. The incision was horse-shoe shaped, convexly downward, as I thought this would favor drainage, afford a good blood supply, and also give the best view of the parts concerned. The patella was broken transversely, the upper part halved, and the inner segment of this split like a biscuit. Fortunately the outer portion (under the skin) was thickest. I removed with scissors a few fragments of bone from the various angles. The joint was very much distended with clots, and quite a piece of periosteum overlapped the upper fragments. This shows what the result would have been had the case been treated in the usual manner. In the method of sewing, I differed from Dr. Starr. The holes being drilled, I passed stout silver wire through them twice, and so obtained thorough opposition. The pull of the quadriceps was very great, and I certainly would not have brought the pieces together closely with one strand. I did not stitch the periosteum. The joint had a final douche with hot water. The skin wound was stitched with cat-gut, and dressed antiseptically without drainage. I removed the dressings on the tenth day, and found complete union, but, of course, considerable swelling. A plaster-of-Paris splint was applied, and allowed to remain for six weeks. One week after putting the splint on, I opened it on the inside. Two weeks after this, I directed the man to remove it at night, but to put it on in

the day time, and to get about with a crutch. He went fishing on the 20th of July. The motion of the joint improved slowly, and he can now bend the leg to an angle of seventy-one, and *probably* by next summer to ninety and beyond. The swelling disappeared long ago, and there is nothing now to indicate a break. The contour of patella and joint are perfect. The man goes in the woods, and can walk any distance without pain or discomfort.

I may say I did this operation with lay help only. The really difficult part of the operation was the holding of the fragments while Mr. Winter, my principal and very efficient assistant, drilled the holes. I would thank any reader to suggest some means of doing this. I am sending this report in the hope that it may encourage some fellow country medico to undertake such a case.

The Atypical Child.—Under this title, Dr. Maximilian P. E. Groszmann read a paper Thursday night (Jan. 28th), at the regular meeting of the German "Gesellig-wissenschaftlichen Verein," of New York. He said that he had suggested the use of the term "atypical" for a certain class of children, so as to distinguish them from the defectives, such as idiots, feeble-minded, blind, deaf-and-dumb, etc. While some provisions exist for the handling of the defective classes, little or nothing has been done for the atypical children. Dr. Groszmann laid much stress upon the evil effects of adenoid vegetations. He said that the observable mental and moral difficulties can largely be cured by proper medical treatment, in addition to educational measures. There are also many children whose rate of mental growth is merely slow, but who really possess much power. Neurotic and neurasthenic conditions are very characteristic of modern life with its rush, excitement, and restlessness. There is overstimulation in school and home, under which so many children suffer; of the troubles of the adolescent girl whose nerves become shattered by overstrain in study at this critical period; of youthful hysteria; perverse tendencies; morbid conditions of fear; disturbances of sleep, appetite, and concentration; contrary activities; disturbances in the motor sphere, such as twitching, jerkings, habit tic, etc. Most of these children must be taken out of the ordinary school. For some it will suffice to establish special classes, such as are being instituted at present in some of our public schools. Others need an entire change of environment, proper hygienic conditions and exercise; a general tonic regimen, physical and mental, and a very rational method of instruction, including manual and physical training, and very much individualizing. Special schools will have to be established for their benefit, and a constant co-operation of physician and educator is necessary.—*American Medicine.*

Selected Articles.

WESTWARD, HO!—THE MEETING OF THE CANADIAN MEDICAL ASSOCIATION AT VANCOUVER, B.C.*

ON account of the meeting in August of our National Medical Association at Vancouver, B.C., and the probability that it may be the largest meeting the Association has ever held, a few paragraphs as to the pleasures in store may be of interest to the profession; but, as a shrewd old Yankee said to his son, who was recounting his lessons in geography: "Say, Hiram, jest you hearken to me; that's all very good, but the best way to learn geography is to go thar."

As previously announced through these columns the thirty-seventh annual meeting of the Canadian Medical Association will be held in Vancouver, B.C., from the 23rd to the 26th of August. Definite rates have been arranged for as regards points east of Port Arthur, and the General Secretary is in communication with the C.P.R. officials in Winnipeg regarding the latter, which will be announced in due time. Although the official circular from the railway companies has not yet been received, it is expected that the date of sale of tickets will open on the 15th of August, and following days; the time limit will be two months, and will not be extended beyond that. Tickets will be sold only to delegates and immediate members of their families, on presentation of certificate from General Secretary of the Canadian Medical Association; and those who have not already done so should file their names with that official at an early date. Under arrangements made, tickets will be good going over the Canadian Pacific direct, *via* Port Arthur or *via* Sault Ste. Marie, St. Paul, thence Soo-Pacific route, Great Northern or Northern Pacific, or *via* Detroit, Chicago, St. Paul, thence Soo-Pacific Route, Great Northern and Northern Pacific, returning same route or any other of the above routes. Returning, diversion can be made *via* St. Paul to St. Louis, at an additional cost of \$10.00, and from St. Louis to Detroit, where travellers will rejoin either C.P.R. or G.T.R. to their homes according as tickets read. Should any wish on return journey to visit the Yellowstone Park, they can do so on payment of the extra charge made for the trip through the Park from the junction with the Northern Pacific

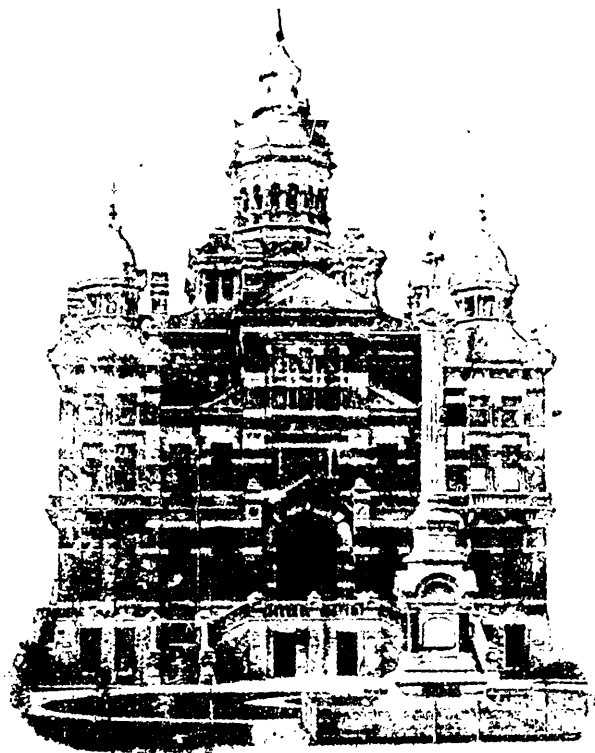
* We are indebted for a portion of this article to Rev. J. E. Starr, of Toronto, who for some years was a resident of Victoria, B.C.

Railway. Later information will be forthcoming *re* this. No other arrangements have been made so far, but the General Secretary is in communication with the Union Pacific to provide for return *via* California, Salt Lake City, Colorado, etc. If these arrangements can be made they will be duly announced. If any arrangements are made for special train, these will also be announced. The following gives an approximation of the rates from all points east of Port Arthur, Toronto, Brantford, Hamilton, Windsor, Chatham, London, Stratford, Guelph, Orillia, \$62.40; Montreal, Ottawa, Brockville, \$68.00; St. John, N.B., \$76.50; Halifax, *via* I.C.R., \$81.00; Sydney, \$83.70. Winnipeg and points in Manitoba, \$45.00, but full arrangements for this have not as yet been fixed. One certificate only will be required to be presented by delegate for his own use and the immediate members of his family; and those only who file their names with the General Secretary can be sent these certificates. The berth rate to Vancouver in each direction from Toronto and Montreal is \$17.00 and \$18.00 respectively. Mr. Mayo Robson is to be a guest of the Association, as well as Dr. J. W. Mayo, Rochester, Minn., and probably Professor Marmorek, who is to be the guest of Dr. A. J. Richer, Montreal, during the coming summer. In addition to this, already a fine list of papers has been promised, titles and names of which will appear in future issues of this journal. Those contemplating attending should send their names immediately to the General Secretary, Dr. George Elliott, 129 John St., Toronto.

No longer a youngster, Canada has donned the toga of a virile young manhood, the girdle of which is the Canadian Pacific Railway, stretching its 3,700 miles across the continent, with Winnipeg as its frontal knot.

From Toronto to Fort William, touching at that widely-known centre as a shipping point for grain; through the land of mixed farming, broken by many lakes and rivers, rich in game and well-wooded; on to Winnipeg, with its push and semblance of Western ways, and its memories of a former Association meeting; over the prairies to the Rockies 600 miles. The Grande Prairie country, along the Peace River to the north of Edmonton, contains 20,000 square miles, and has, until recently, been regarded as a district for trappers, sportsmen, and Indians only. In that story, "Conjuror's House," Stewart Edward White, with a scratch of his pen, gives an entrancing description of the Old Free Forest: "League on league into remoteness, stretched the stern northern wilderness, untrodden, save by the trappers, the Indians, and the beasts. . . . The seasons changed, all grim, but one by the very pathos of brevity, sad. . . . The snow fell; the river and bay froze; bitter iron cold shackled

the northland, the abode of desolation. Armies of caribou drifted by, ghostly under the Aurora; moose, lordly and scornful, stalked majestically along the shore; wolves howled invisible, or trotted, dog-like, in organized packs along the river banks. Day and night the ice artillery thundered, while the people of desolation crouched beneath the tyranny of winter. Then the upheaval of spring, with the ice-jams and terrors, the moose roaring by untamable, the torrents



CITY HALL, WINNIPEG, MAN.

rising, strange spirits abroad at night, howling, shrieking, cracking and groaning in voices of ice and flood. At last the sudden subsidence of the waters; the splendid, eager blossoming of the land with new leaves, lush grasses, an abandon of sweet briar and hepatica. The air blew soft, a thousand singing birds sprang from the soil, the wild goose cried in triumph. Overhead shone the hot sun of the northern summer. . . . For a brief season, transient as the flash of a loon's wing on the shadow of a lake, the

trading post was bright. . . . Like the wild roses around the edge of the muskegs, this brief flowering of the year passed."

Westward, beyond the Prairie City, "the Girdle" winds through the vast plains which scarcely a generation ago were known only to Indians, trappers and missionaries, those rolling land billows which now are gridironed with a network of "branch-lines," and dotted with fine cities, progressive towns, neat settlements, and either magnificent farms arustle with grain, or huge ranches abrowse with myriads of horses and cattle. Here is Portage la Prairie and Brandon! Down there Souris City! To the north Minnedosa and Birtle! and straight ahead Qu'Appelle, Regina, Medicine Hat, where is crossed the mighty Saskatchewan and where may be visited a perfectly-equipped, beautiful little stone hospital, the first ever built in the Central West, and reared fifteen years ago to the memory of a noble woman. At Medicine Hat, too, you change cars for the Crow's Nest route, otherwise on ahead again, through the coal tract and past the gas well aflame now for over twenty years, and beyond, nestling there in a crook of the Bow is— But wait! the trip is not tedious, is it, or tiresome? Not an hour of it! Not a minute! Only your eyes may have become weary with the ever-shifting panorama of surprises. But rub the strain out of them and wipe your glasses! Only when he has traversed these plains and witnessed this spectacle does a Son of Canada know the magnificence of his heritage, only then become an out-and-out Canadian! Look! yon gleam as of silver flashing in the sunlight! The glint of a distant river is it, or only a tantalizing mirage? Nay! the snow-line, the first all-wondrous glimpse of the Rockies. And ahead are yet miles and miles before the panting locomotive crosses the Bow, and at the base of the foot-hills whistles for Calgary, the Gem of the West.

Upon reaching Calgary the prairies end. Calgary is the home of the horseman. Here is the centre of the ranching district, and cowboys are seen in every direction on the streets. Says a traveller: "The great stretch of level country, the immense distances fading away in the purple horizon, the seeming eternity of plain ceases, and the rolling, grassy foothills of the Rockies succeed, glorious in their spaciousness and exhilarating air, and rising tier behind tier to the base of the great range, of which they are the mere outposts.

"As the train mounts the ascent the mountains seem to bar the way unexpectedly and invincibly. The beautiful Kananaskis Falls, close to where the Kananaskis River join the Bow River are passed and the roar of the great rush of water is distinctly heard from the track.

"But the Rockies are still to be entered, and there seems no means of doing so. The mighty range rises right in front of the

train, and snow-capped peak and rugged crag, clothed with spruce on their lower slopes but stern and bare higher up, seem to deny, absolutely, all further progress. However, the track takes a sharp turn to the left and the train enters 'The Gap,' a narrow passage between two vertical walls of rock. In this startling fashion does the railway begin to traverse one of the most beautiful mountain districts in the world. For 500 miles from East to West for hundreds of miles from North to South the peaks extend, and Mr. Whymper, the veteran mountaineer, has declared the Canadian Rockies to be 'like fifty or sixty Switzerlands rolled into one.'



BOW RIVER VALLEY.
SHOWING C.P.R. BANFF SPRINGS HOTEL, BANFF, ALTA.

Up grade now, and the heart thrilled at the prospect of the mountains. At Canmore you really enter them, their proximity, their towering sublimity, and their silence awing the onlooker into a sense of human littleness.

The train passes Canmore, where anthracite coal is to be obtained, then a magnificent view is seen of the 'Three Sisters.' They stand in line boldly rising from the valley, their weather-beaten heads ruggedly outlined against the sky, while the snow lies glistening white in their fissures and crevices.

Beyond, hidden in their sylvan bowers amid the heights above the Kicking Horse, are the far-famed, age-old, medicinal springs of Banff, the present home of the genial Dr. Brett.

Banff is soon approached, where many tourists may stay at the comfortable hotel that the C.P.R. has established there, but again the way seems blocked by the Cascade Mountain.

"Really it is miles away, but as the line turns toward it its huge bulk seems in the clear air quite close, and the passenger sees it approaching nearer and nearer to him with a marvellous effect. It has obtained its name from a cascade down its most prominent side.

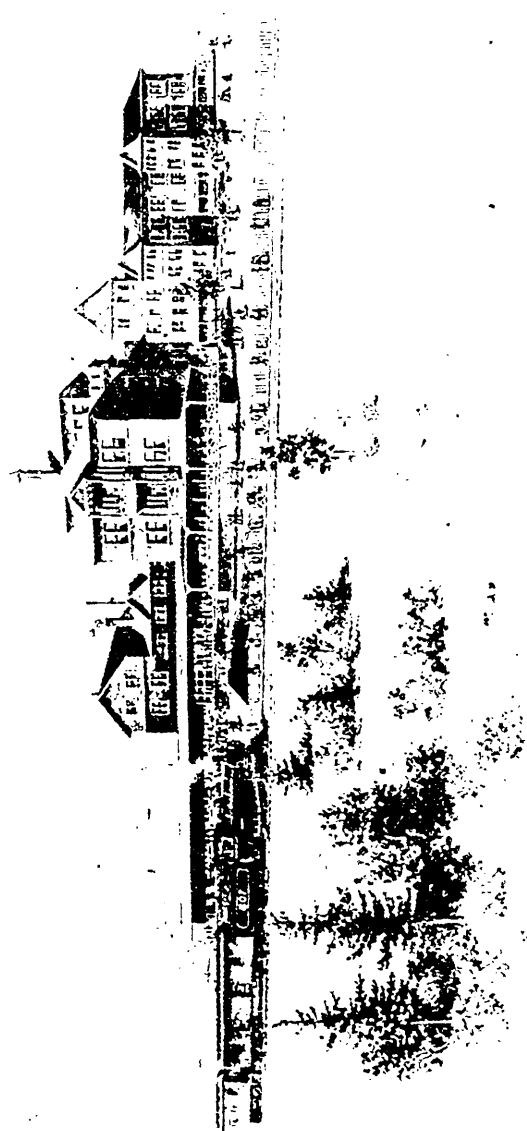
"At Banff, wise travellers will pause for a time. A delightful spot, in the very heart of the mountains, the C.P.R. has built



CAMP AT MORAINÉ LAKE, NEAR LAGGAN, ALTA.

an excellent hotel for the use of visitors. It nestles at the foot of Mount Rundle, a great giant, the two peaks of which tower nearly 10,000 feet high, and is at the junction of the Rivers Bow and Spray. On Sulphur Mountain are natural hot springs of undoubted medicinal value, and the views are far more extensive than is common in a mountain region.

"Close by the hotel verandah, the River Bow foams and boils over its falls, and looking up stream between its banks, the snow-capped Cascade Mountain closes the vista in the distance. A few yards lower down the actual junction of the Rivers Spray and Bow takes place peacefully and picturesquely.



MOUNT STEPHEN HOTEL, C.P.R. HOTEL, FIELD, B.C.

“ In the National Park the Canadian Government has taken steps to preserve some of the typical animals of the Dominion from extinction. In a corral of 800 acres is a herd of buffalo, a mere remnant of the thousands that once covered the plains, and even stopped trains by their numbers. Now indiscriminate slaughter has killed them off, and the only survivors of the race are the herd at Banff. They seem increasing and thriving, and now number thirty, so that the breed may yet be saved from destruction. In the same corral are a pair of moose, the noblest of the deer family. Happily there is not the same necessity for the preservation of these animals in the National Park, as they are not decreasing in numbers. The strictness of the provincial game-laws has done much to protect the wild animals, and it is likely to be many years yet before the advance of civilization threatens these noble animals with extinction.

“ The C.P.R. has taken great pains to make all the natural beauties of Banff accessible to tourists. It is of course, except for the railway, virgin country, where twenty years ago man never penetrated; so roads had to be cut and trails discovered for the sake of the visitors alone. One of the most charming of these is the Corkscrew Drive, winding round and round through the trees in order to reach the summit of Tunnel Mountain, just across the valley from the hotel.

“ Guides from Switzerland, who have been climbing mountains all their lives, have been stationed at Banff and other special spots along the line, for the express purpose of ministering to the wants of travellers. Sometimes they will take them for trips in which there is little fatigue, sometimes they will accompany hardy mountaineers, who are attacking monarchs of the range that have never yet been ascended, and are encountering difficulties that only hardy Alpinists know and love. In this latter class of ascents may be placed that of Mount Edith, that rears a sharp tooth of rock to heaven, gaunt and bare.

The “ ribbon of steel ” winds upward, past Castle Mountain, and sentinelled by Mts. Hector and Stephen, until it reached the summit, where, fed by the melting snows from loftier peaks, nestles a lagoon, out of one end of which flows the Saskatchewan and from the other the Columbia.

“ Leaving Banff, and pressing on, a stop is usual at Laggan, the station for the famous Lakes in the Clouds. The station is 4,390 feet above the sea level, and another 650 feet in two and a half miles is made before the first, Lake Louise, is reached; while the other two, Lake Mirror and Lake Agnes, are 1,000 and 1,300 feet higher respectively. They lie like jewels resting against the face of the mountain, and their calm, placid surfaces, amid all the wildness of their surroundings, seem to breathe of peace and quiet far removed from the cares and bustle of the world below.

"Nine miles past Laggan the Great Divide of the Rockies is crossed. It is here 5,296 feet above the sea level, and gives rise to a curious phenomenon. A stream parts and sends its waters down either slope, under one or other of the arches. It is a mere



GREAT SELKIRK GLACIER AND C.P.R. GLACIER HOUSE, GLACIER, B.C.

chance whether a bubble finds its way from this point to Hudson's Bay or down the quicker route to the Pacific Ocean.

Now down the far slope of the Rockies, and into the Selkirks, the Sierra Nevadas and the Gold Mountains, the scenery wilder, more majestic, more awe-inspiring.

“ Just after crossing the divide of the Selkirks by Roger’s Pass, at an altitude of 4,300 feet, Glacier House is reached.

“ Right behind the hotel is the Great Glacier of the Selkirks: within easy distance is the Asulkan Glacier. The mountain scenery round Glacier is superb. The hotel itself is under the shadow of Mount Sir Donald, that rises 10,600 feet, a naked, abrupt pyramid, its sides scarred by glaciers, to a height a mile and a half above the railway.

At Glacier, the ice-river held in captivity to the frost-king, and below it the famous “ Loops ” letting you down the mountain-side, three railway tracks visible beneath you! At Albert Canyon,



C. P. R. HOTEL VANCOUVER, VANCOUVER, B.C.

a narrow abyss sheer down its thousands of feet. At Williams River, six hundred feet above its tumbling waters, the railway clinging to the edge of a cliff towering the same distance above it.

“ Every season of the year has its own charms, and the mountains are always beautiful, but the fall of the year, perhaps, makes the most vivid impression on the memory. Then the trees put on their autumn foliage, and, as they extend but part of the way up the mountain sides, their glorious tints seem like an ornament assumed by the slopes for a purpose. So the golden hue of Lyall’s larch flames like a great belt of gold along the mountain side, and he who has seen it remembers for all time the gorgeous spectacle.

"But, hastening on out of the Selkirks, the Columbia River once more is crossed. Many points of interest are passed. Revelstoke, that gives access to the Kootenay district, famed for its mines; Sicamous, that could give as good sport or as fertile a farm as a man could desire; Kamloops, a spot the dry climate of which has restored many invalids to health and strength.

"The Fraser River, with its 'terrific' canyons, widens out at last, a wonderful picture, with the magnificent stream keeping its course to the ocean with majestic calm, between mountains clothed now to their summits with firs.

At North Bend, the exit down the wild gorge of the Fraser, its further side edged with the old stage-coach road from Cariboo and leading into the alluvial lowlands that stretch to the sea!

"The mountains remain in sight, beautiful still, until Vancouver itself is reached, then retire a little from our path, and begin to give way in interest to the great industries of British Columbia."

Over there to the right now are already flashing the waters of Burrard Inlet, and while the excursionists are yet under the pleasing thrall and excitement of a trip unequalled for magnificence of scenery on any continent of earth, the locomotive is whistling for the terminus, a city of artistic homes, its water brought from the Capitanas, a stream of mountain purity, and with a system of water supply and sewerage the finest in the world—Vancouver, the Liverpool of the Pacific.

Vancouver, of which the C.P.R. station and the terminus of the great transcontinental line is shown, is the centre of a number of important interests, and has a population of 27,000.

Its harbor is magnificent, and from it sail the well-known C.P.R. Empress steamships to Japan and China; the C.P.R. coasting fleet to Skagway, Alaska and Seattle, and the Canadian-Australian Line, that is building up a flourishing commerce between the Dominion, Australia and New Zealand.

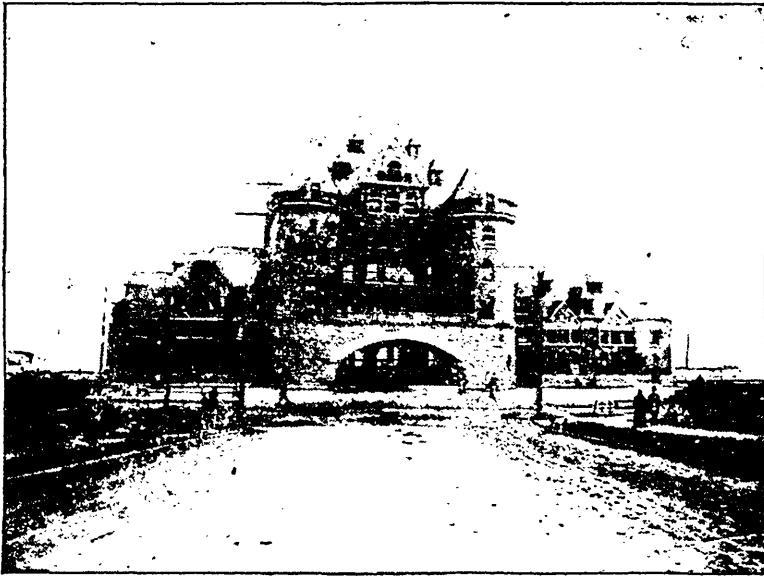
Apart altogether from its commercial importance, Vancouver is a very beautiful place, with the distant view of Mount Baker in the south and the Coast Range northward. It has possibly the most beautiful natural park in the world, Stanley Park, and here we can get some idea of one of the principal glories of the province, both from the picturesque and the business points of view.

The timber of the province is immense and seems to have been designed on the same scale as the mountains on which it grows. Valuable as it is from the scenic point of view, its commercial qualities are even greater. A "B.C. Tooth-pick," as the squared timber is called, is often 112 feet long by 24 inches square, or 70 feet long with a side of 36 inches. The trees themselves stand 150 and 200 feet high, and one of them would supply enough

timber to build two houses 30 feet square by 15 feet high. Naturally, with such lumber as this to be got, the industry is highly organized, and requires a large number of men.

Another very important occupation is that of salmon fishing and canning, the headquarters of which are at Steveston, near Vancouver. The salmon are, of course, caught wholesale, and after canning are sent to every part of the civilized world.

The unloading of the catch is a very beautiful spectacle. The fish lie in the boats in countless numbers, all shining and silvery. As they are shovelled on to the wharves the sun catches their wet scales, and they pour on to the ground like a stream of molten silver.



C.P.R. STATION, VANCOUVER, B.C.

The hotel accommodation along the entire route of the Canadian Pacific Railway, extending from St. Andrews-by-the-Sea (the fashionable Atlantic seaside resort) to Vancouver on the Pacific including the magnificent Banff Springs Hotel, situated at Banff in the Canadian National Park, and complete chain of mountain resort hotels all through the Canadian Rockies, is most satisfactory. Some of the C.P.R. hotels are the Algonquin Hotel at St. Andrews, N.B.; the McAdam Hotel at McAdam, N.B.; Chateau Frontenac, at Quebec; Place Viger, at Montreal; Kaminstiquia, at Fort William, Ont.; Banff Springs Hotel, at Banff, N.W.T.; Mount Stephen House, at Field, B.C.; Glacier House, at Glacier, B.C.; Hotel Sicamous, at Sicamous, B.C.; Moosejaw

Hotel, at Moosejaw, N.W.T.; Lake Louise Chalet, at Laggan, N.W.T.; Hotel Revelstoke, at Revelstoke, B.C.; Fraser Canyon House, at North Bend, B.C.; and Hotel Vancouver, at Vancouver, B.C. The latter will be headquarters for the approaching meeting in August, and there is nothing in the hotel line more perfect, richer, and yet more home-like, than Hotel Vancouver, the service being the best, and under the ablest management. Visiting physicians will be delighted with the treatment accorded them, the manager having decided to make the stay of members of the Canadian Medical Association, three months from now, just as enjoyable as he knows how, and assures us he will say to each guest, "Monsieur, the house is yours."

THE SOLUBLE FERMENTS OF COW'S MILK.

BY JOSEPH LESPERANCE, M.D., PARIS.

It is a well-known fact that milk is in itself a complete food, since it contains the three alimentary elements by which all life is sustained; namely, the albuminoids, the fats and the sugars. But, although human life may be indefinitely maintained by the exclusive use of milk, the seemingly paradoxical fact has been established that an artificial mixture of albumens, fats and sugars, although in the same proportions as when contained in natural milk will not sustain life beyond a limited period. The following experiment made by Lunin demonstrates this interesting fact:

Mice, as well as men, can live indefinitely on natural milk as a sole diet. But when they are fed on artificial milk containing all the chemical constituents of an excellent milk, they die in from 20 to 30 days. In this experiment Lunin prepared his milk in the following manner: The milk was diluted with water, and then precipitated by acetic acid. The flaky precipitate was then washed with acidulated water, leaving it a mixture solely of casein and fat. To this quantity of albuminoid and fatty matter, he added cane-sugar in the proper physiological proportion to represent the carbohydrates. Finally, he added the salts that are contained in natural milk, in the exact quantities in which they are found in that substance. Theoretically this artificial milk constituted a perfect food, since it contained the three principal groups as well as the salts. Nevertheless, the mice on which the experiments were made did not live although they relished the diet and ate plentifully of the food.

Lunin was studying the role played by the mineral salts in nutrition, and at the time when he announced the result of his experience the scientific world was considerably surprised.

It is now well understood that the factor which was lacking in Lunin's artificial milk, that which was necessary in order to make this product capable of sustaining indefinitely the life of his mice, was that chemically intangible constituent, the active living force, in fact, the enzymes or unorganized soluble ferments that were destroyed by his method of preparing and treating the milk. This fact explains why sterilized milk and other sterilized foods have not fulfilled the general expectations of the scientific world. Received at first with enthusiasm by the medical profession, it was gradually shown in the course of time, that they did not constitute an ideal method of feeding. Many medical men, recognizing the lack of result without knowing the real cause of failure, returned to good natural milk, either simply diluted with water, or not. Careful observation showed that milks that had not been heated beyond a natural temperature were more easily digested and gave greater vitality to the system. It was observed that sterilized milk produced in children soft muscles, a generally irregular development and a weakened resistance to infectious diseases. Some men even stated that they were the indirect cause of infantile scurvy. And these unsatisfactory results were observed even when the very best methods of blending were being used, and the milk had been modified so as to make it, from a chemical standpoint, not only merely resemble mother's milk, but actually almost identical with it.

These facts were verified, but without any reasonable explanation of the cause. However, the work and thorough investigation to which milk has been subjected within the last few years, have thrown an entirely new light upon the subject. The constituents which are lacking in sterilized milk, or more properly speaking, are destroyed when the temperature of the milk is raised to 176 degrees F. are the enzymes, those mysterious ferments governing the equilibrium of the protoplasm. Not only in the animal kingdom but in the vegetable kingdom as well, every vital phenomenon seems to be dependent on these ferments. The grain of wheat, planted in the soil, owes its development and growth solely to these special ferments. Under the influence of soluble substances secreted by microbes in the bosom of the earth, the grain of wheat emerges from its lethargic condition. It has been shown that absolutely sterilized earth is useless for the growth of seeds and that these do not come to maturity in such soil. (Ref. Nobbe, Dresden.)

The same thing applies to the animal kingdom. Animals kept in an aseptic atmosphere and fed on sterilized foods cannot live. The quantity and proportion of albumen, of hydrocarbons and of fats may be perfect, but that particular force which separates and disintegrates them into their ultimate terms of absorption

no longer exists, and these food substances become inert. According to Kejanitzin the disastrous effect of the sterilized air breathed, continues even after the animals have again been placed in a normal atmosphere. This author explains, that in breathing ordinary air the microbes inhaled are absorbed by the leucocytes, which separate the ferments which these microbes contain and spread them through the organism where they regulate oxydation and prevent the accumulation of leukomains and other toxic principles.

It is a path abounding in beautiful discoveries that science has opened. It is found that the malignant ferments, producers of illness and death, are in reality only an accident in nature. If there exist those that are responsible for the shortening of some lives, on the other hand their very kin are they that since the creation of the universe have perpetuated species, and finally, the evolution of the higher organisms is corollary to that of the infinitely small. Although there are injurious germs whose secretions disturb the vital harmony and cause a disturbance of the physiological phenomena, yet by way of retaliation or compensation there are a much greater number of those whose secretions are of direct benefit. It is true, that as yet we know but a small proportion of these, but the list is growing and continues to grow as time passes. Let us salute, en passant, the noble germs, creators of fine wines, of good ciders, of fragrant vinegars and of savory beers.

If we have entered somewhat fully into the above considerations, it is because the ferments that are found in milk originate both in the organic cell and in the bacterial cell; the former being necessarily in the milk because they are contained in the organism and in the gland cells which give rise to the milk; the latter being accidental, but at the same time always found in the milk since they are secretions of the bacteria which exist everywhere and consequently gain entrance into the milk, many of them even before it leaves the galactiferous ducts. These bacterial ferments were thoroughly studied long before the cellular ferments, and since the observations and work of Duclaux are known intimately, they are for us less interesting than the others, and to them, the cellular ferments, we should more particularly devote our attention.

The clear ideas which we at present possess regarding the soluble ferments of milk, have taken a long time to come to light. While the first work on the digestive ferments of the human alimentary canal dates back some 50 years, only five years have elapsed since any serious attention has been given to those of milk. After having discovered ptyalin in the saliva, pepsin in the gastric juice and the tryptic ferments in that of the pancreas, science

rested. Bacteriology acquired a tremendous impetus from the ideas of Pasteur; a keen interest was aroused that engrossed all thinking minds. But by a return to the original ideas, bacteriology in discovering the secretions of the microbes, brought these same thinkers back to the study of the secretions of the organic cells, and demonstrated that the two are identical and that there is no biological difference between the constituent cells of our organism and those minute cellular individuals, the microbes.

Babcock and Russell, of Wisconsin, so far as we can learn, were the first to demonstrate the presence of soluble ferments in milk.

In the earlier days the various phenomena that take place in milk were explained as being solely chemical,—the reaction of one body on another. Then, in the time of Pasteur, the facts became a little better known, and all the transformations of milk were ascribed to the action of bacteria. Lloyd and Freudenreich made known the considerable part played by bacteria in the maturing of Cheddar and Emmenthaler cheeses.

Babcock and Russell, struck by the fact that all the changes taking place in milk could not be explained by the activity of bacteria alone, undertook a long series of experiments in order to elucidate the apparent difficulty. They experimented partly with natural milk and partly with milk that had been worked by cheese-makers. To samples of fresh milk they added in some cases chloroform, in others ether, both of them substances which arrest bacterial growth. They found that coagulation of the milk set in within a few days without any corresponding increase of acidity. In these experiments the anesthetics would have prevented coagulation if that phenomenon were due entirely to bacterial life.

Then, as Conn had announced that saprophytes possessed the power of secreting an enzyme analogous to rennet and capable of coagulating milk, and as Duclaux in a lengthy communication had brought to light the important role played by the saprophytes in the phenomena of the maturing of cheeses, Babcock and Russell determined to investigate the question as to whether the coagulation of the milk in spite of the use of the anesthetics had been caused by bacteria. They took every precaution, surrounding themselves with every safeguard in order to prevent the contamination of the milk by saprophytes. The udder of the cow was carefully sterilized, the first milk was thrown away, and then the balance was milked direct into bottles containing an excess of an antiseptic preparation. By this process the bacteria with spores which produce the coagulating ferment were excluded, and if by chance any of them, coming from the lactiferous ducts, reached

the milk, they were immediately paralyzed. Under these conditions which would eliminate all bacterial activity, the same phenomena of coagulation and transformation of the casein took place as before and in the same time. These experiments were repeated with all antiseptics known to arrest microbial reproduction such as fluoride of sodium, salicylic acid, etc., and the results were always the same. Moreover, in proportion to the age of the various samples of asepticized milk, these exhibited a gradual increase in the percentage of albumoses, formed at the expense of the caseine. For example, in milk 12 days old, the proportion of the products of this digestion was 30 per cent., while in the same milk, 240 days old, the proportion was 63 per cent. Babcock and Russell then arrived at the conclusion that besides the organized ferments, there are in milk other ferments which are inherent in the milk itself. In pursuing their investigations further, they found these ferments in the milk of all the mammifers that they studied (ass, mare, goat, sheep, sow, buffalo and woman). In the cow's milk it is particularly abundant and more easy to isolate.

To this ferment they gave the name of Galactase and classified it in the same family as Trypsin, the pancreatic enzyme.

This view of the matter was confirmed in the very same year. Bertrand and Bourquelot, without knowing anything of the work of Babcock and Russell, demonstrated by other processes the presence in milk of oxidising ferments. As long ago as 1881, Arnold had found that fresh cow's milk became blue on contact with tincture of guaiac, and that this reaction is no longer produced if the milk is heated to a temperature of 80 degrees C. In 1890, Kowalesky established undeniably that the same reaction takes place in milk when mixed with old turpentine. But at that time this reaction was attributed to the presence of ozone. Later it was recognized that free ozone cannot exist in the system, and Bertrand and Bourquelot demonstrated that the reaction of milk towards oxidising agents is due to the presence of a ferment. However, this is not a direct ferment, but rather an indirect ferment. Of itself it is powerless to oxidise oxidisable substances without the assistance of an intermediary agent highly oxygenated, such as the tincture of guaiacum, old turpentine or oxygenated water. But when these agents yield their oxygen to this ferment, the latter is able to hold it and in consequence to oxidise any oxidisable substance with which it comes into contact. For example, if some drops of tincture of guaiac are added to fresh milk, this does not change color. But if at the same time some drops of oxygenated water are poured into the milk, a blue color begins to show itself at once. The ferment has absorbed a por-

tion of the oxygen and coming into contact with the guaiac has oxidised the latter. Thus this ferment belongs to the family of anaeroxydases. At this time Dupouy, and in the following year (1898) W. Raudnitz, studied this oxydase and found that it is present in the milk of the goat, the cow and the ewe, and that it is absent, or that its action is very weak in the milk of the ass, the mare, the dog and in human milk. Marfan and Gillet have also studied this ferment and confirm its presence in the milk of the cow.

In 1901, Spolverini took up this line of research and recognized in cow's milk the presence of pepsin and trypsin. Working on milk aseptically treated and in which perfect asepsis was maintained by thymol, he placed in a drying-stove at 104 degrees F., various quantities of milk, some acidified for the research for pepsin, others alkalized for the research of trypsin. After a certain time he determined the quantity of soluble albumen in it by the biuret reaction. A boiled sample served as a means of verification. By proceeding in this manner, Spolverini found that the pepsin and trypsin were to be met with in all the milks, but were most abundant in cow's milk. The proportion diminishes in the milk of the dog, the goat, human milk, and that of the ass.

Besides those ferments of which we have already spoken, still another is to be found, which Spolverini identifies with the glycolytic ferment of the blood. If the sugar contained in a given quantity of fresh milk is determined, and the latter is placed in a drying-stove at a temperature of from 38 to 41 degrees C., and the quantity of sugar is again determined after a lapse of 24 hours, it will be found that the quantity of sugar has considerably diminished. A portion has been destroyed. This is by the action of a glycolytic ferment. This ferment shows itself fairly active in cow's milk, but slightly less so in other milks. Moreover, in 1901, Luzzati, Biolchini and Marfan, and in 1902, Gillet as well as Spolverini have separated still another ferment that belongs to the family of hydrolytic ferments. Under the influence of this ferment monobutyrim resolves itself into butyric acid and glycerine. These authors operated by distilling a mixture of milk and monobutyrim and in them determining the acidity of the distilled products. They encountered this reaction of splitting up monobutyrim in the milks of the woman, dog, cow, goat and ass, stronger in the former and less energetic in the latter. They have agreed upon giving this ferment the name of lipase, a name which Bourquelot had given to a ferment of the same nature, which Hanriot was the first to discover in the blood.

Summing up the various researches and discoveries made in connection with cow's milk, we find then, that this milk contains

numerous ferments. We have determined definitely the presence of trypsin and of pepsin, of the lipasic and oxidising ferments and of a glycolytic ferment. There is, moreover, reason to expect further discoveries in this direction, and this is not improbable when the extremely complex nature of milk is taken into consideration.

THERAPEUTIC NIHILISM vs. ALKALOMETRY.

There is, unfortunately, at the present time, a general tendency upon the part of some of the profession to throw doubt upon the curative properties of medicines; to add one after another to the list of diseases not amenable to treatment by drugs, and thus, while professing to cure, avowing their inability to do so.

The lawyer does not, when he undertakes to obtain relief for his client, hold forth the same day on the platform or in some publication and express it as his opinion that there is no relief for this same ill in law. In no other profession is there the tendency to deny the possibility of those very results the members accept fees to obtain. That Medicine—anything which has to do with the human body and its changes and decay—is subject to uncertainties which beset no other profession is true, but the doctor worth calling a *doctor* must either believe in his remedies or live a life of gross deceit. To smilingly take a man's money and press a suit in court when you know in your heart you cannot possibly win it is bad enough; but to take a man's money and his life in your hands, leading him to suppose you can cure him, when in your inner heart you have not the slightest belief that you can do so, is, to say the least, non-ingenuous—yea, more, *it is damnable!*

The "nihilist" does not flatter himself. If he believes what he says he does believe, then he should stop practising medicine! There are men who know their therapeutics well enough to believe in the remedies they use. That certain drugs produce certain results in certain conditions is a fact. That some produce one effect in a sound person, and another in a diseased one is also known; but quite as positively understood is the fact that, even under adverse circumstances, certain drugs will, in certain doses, produce certain results in the human being, well or sick. The man who denies this, brands himself as ignorant. Then, if he allows that such a condition obtains in some cases he must not assert that other drugs do not act just as surely, because he has not found such to be the case.

There are many fluid preparations of vegetable remedies; some are potent, some are not, but not one of them can stand upon the

shelf for six months—subject to occasional depletion and handling—and be of the same strength as at first. Either stronger (through evaporation) or weaker (through change) they must be. Then it is impossible for two manufacturing chemists to make tinctures or fluid extracts which will be absolutely alike. Even the preparations of one house will vary according to the crude material used.

Such drugs as are active medicinally are active because they contain one or more active principles. Grown on a certain soil, in the sun, and in a dry season, there may be present in a given quality 10 per cent. of that active medicinal principle, while the same drug grown on another soil, in a shady spot, in a wet season, will contain 3 per cent.—and *vice versa*. Did you know that, ye scoffer, you who believe or pretend you do, that the label determines the reliability of the medicine rather than the therapeutic result from the bottle content?

The *Clinic* is not alone with its danger cry! Read the following from the *Journal of the American Medical Association*, by one who knows and, like the *Clinic*, stands ready to speak of the faith that is in him:

“ WORTHLESS GALENICAL PREPARATIONS.

“ New York City, Jan. 29th, 1904.

“ To the Editor:—In a recent communication printed in the *Journal of the American Medical Association*, I stated that one of the causes of therapeutic nihilism and therapeutic chaos was to be found in the inferiority of some drugs and in the great variability of galenical preparations. I pointed out the great importance of ordering galenical preparations from strictly reliable sources and referred to the advisability of prescribing the active principles of drugs in those cases where the active principles have been isolated. I want to give an additional illustration which very forcibly illustrates the correctness of my position. As is well known, the solid extract of *nux vomica* of the U.S. Pharmacopeia must contain 15 per cent. of alkaloids. Prof. Frederick J. Wulling, of the University of Minnesota, has just reported the analysis of a sample of extract of *nux vomica*, which contained *not a trace of alkaloid*, instead of 15 per cent. (The italics are Professor Wulling's.) The explanation given is that the extract was undoubtedly heated to too high a temperature in the process of evaporation. Many extracts become entirely worthless if heated too high, and this is done only too often by careless manipulators. Is it any wonder that some physicians become therapeutic nihilists? Suppose a physician uses an extract like the above in gradually increasing

doses, and fails to get any effect whatsoever—is it any wonder that the seed of skepticism is planted in his mind? Let the physician not condemn his weapons before he is sure that he used the right weapons and that they were properly tempered.

“WILLIAM J. ROBINSON, M.D.

“119 East 128th Street.”

If the tincture or fluid extract is therapeutically “worth a brass button” it is so because it contains, to each dram, a certain quantity of this active principle. Whether it be a glucoside, resinoid or alkaloid matters nothing. The “therapeutic nihilist” gives medicine—any old thing!—he gets no result. He gives it again—another brand—he gets result. Again he tries—and fails. Perhaps his diagnosis was at fault; but more likely the remedy was not what, at heart, he thought it was. Here, then, is the main and underlying cause of this curse of modern medicine, therapeutic unbelief—*uncertain and varying medicines*.

Allowing that the man who is giving the remedy knows *how* to give it and when to give it, granting that he is not one of those doctors who give a certain prescription in measles because they were told at school that this was “a good thing for that disease;” granting that the doctor has a proper knowledge of pathology, therapeutics and diagnosis, allowing all this, is it not possible and even probable that constant failure with uncertain drugs will still breed unbelief? Absolutely so!

Then, excluding the poor diagnosticians, the men who fail to achieve results because they give the wrong (even though potent) thing at the wrong time, we have, as “therapeutic nihilists,” those intelligent though somewhat short-sighted men, who disbelieve because their good sense tells them that the remedies they give to obtain certain results fail to do the work. What do these men do? Some go on and practise, dipping here and there into the therapeutic pool, experimenting here, and making clinical tests there, and smiling cynically, as they write the same old prescription and pocket the fee! Then, “in meeting,” they come out and say “there is nothing in medicine,” and that “the man who professes to cure disease with drugs is no better than he should be.” *Are they?*

Then there are other men—men who read, think and investigate—who see the weak point in their armament and remedy it! They discard crude drugs and uncertain preparations and use the very active principles themselves.

Did ever anyone hear of an Alkalometrist being a “therapeutic nihilist?” As likely the Czar of Russia not to believe in himself and his methods! These men realize that medicine has been an “inexact science” because the weapons used were

inexact. They have changed from the blunderbuss to the rifle and they achieve exact results. One dram of wine of ipecac may do what it is expected to do—to do it, however, may take three drams, all depending upon its emetine strength—no emetine, no efficacy. The “therapeutic nihilist” gets inert wine of ipecac, gives a teaspoonful, fails and becomes a more blatant nihilist than ever. The Alkalometrist uses emetine in exact dosage and does what he wants to do. So with nearly all the more valuable drugs. Give the active principle when and as indicated and exact (curative) results must and will follow!

We have the benefit of the years and years of experience of the “cut and try” men. We do know that such and such a drug has certain properties, and that if given in a certain dose it quite often did certain definite things. Sometimes a dram would give very marked results, sometimes the same amount had less evident action and sometimes it failed altogether; and *we know why—because the active-principle strength varied*. We extract the active principle in its purity and the same results follow the same dosage under the same conditions every time. That’s changing medicine from an inexact to an exact science.

For “therapeutic nihilism” there is but one remedy—*Alkalometry!* Not that any Jack, Tom or Harry can grab a few alkaloids and, by giving them, achieve results beyond the best of the old-method men. To hit a mark with a Mauser ball requires better aim than is needed with an old Queen Bess and a handful of slugs. The Alkalometrist shoots with the most powerful weapons and his eye, brain and hand must be well trained and practised.

To do this, close diagnosing and an intimate acquaintance with therapeutics and pathology are necessary; that is another of the beauties of Alkalometry; but, these being present, the science of medicine has, for the Alkalometrist, been simplified 50 per cent. And the results? Well, twenty-five years from now, when instead of twenty thousand there are two hundred thousand doctors using alkaloids, all this will be apparent in the marked diminution of the mortality records and in the betterment of the doctor and his patron.

As therapeutic nihilism can be abolished by nothing so well as by Alkalometry, perhaps nothing will so speedily make Alkalometry a necessity to the profession at large as the present ever-growing and blatantly-expressed therapeutic unbelief, Christian or other science, quackery and skull-duggery of all kinds that preys unceasingly upon the legitimate medical profession through their inroads upon the ever-credulous, ever-gullable and long-suffering public at large. *Let's all wake up!—Alkal. Clinic.*

A CASE OF DYSMENORRHEA.

BY DR. LUCY HALL-BROWN, BROOKLYN, N.Y.

Miss J., aged 17, has suffered for last three years from a severe form of dysmenorrhea. The pain was so severe that the body would be bathed in cold perspiration, and the patient would appear to be upon the border of collapse. Hypodermic injection of morphine alone gave relief.

She had been in the hands of an able gynecologist, who, among other attempts to relieve her, had dilated the cervix and inserted a stem pessary, but no relief followed.

The patient slept badly, was extremely nervous, and so erratic in behavior as to cause her family and friends extreme anxiety.

The Chattoonooga vibrator was applied to the fourth lumbar and to the upper dorsal region, also anteriorly over the ovarian regions and the liver.

After the third treatment she slept soundly all night. Since beginning treatment her menstrual periods have been without pain. In all she has had eighteen treatments.—*Journal of Advanced Therapeutics*, April, 1904.

The Visit of Professor Ehrlich to Deliver the Herter Lectures at Johns Hopkins Hospital.—Professor Ehrlich, who is the director of the Institute for Experimental Therapeutics in Frankfurt a. M., Germany, was invited by the University of Chicago to deliver an address on immunity on the 18th of March, and was honored with the degree of LL.D. from that institution. He was also entertained by the University of Ann Arbor, and on his way to New York by the members of the Medical Faculty of the University of Buffalo. On the 1st and 2nd of April he was the guest of the Association of American Pathologists and Bacteriologists, which held its annual meeting in New York, and delivered an address on the therapeutics of trypanosomiasis on the basis of experiments carried out by Shiga and himself. On April 12th, 13th and 14th Ehrlich delivered the Herter Lectures at the Johns Hopkins University (in McCoy Hall, 4.30 p.m.). The subjects were: (1) "The Mutual Relations between Toxin and Antitoxin;" (2) "Physical Chemistry versus Biology in the Doctrines of Immunity;" (3) "Cytotoxin and Cytotoxic Immunity." The lectures were delivered in the German language. On April 18th a banquet was tendered to him by the German Medical Society of the City of New York. On the 19th he was the guest of the Harvard Medical School. He sailed for Europe on the 26th. He was accompanied by wife and daughter.—*N. Y. Med. Jour.*

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

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NO. 5.

Editorials.

PROFESSIONAL WORK WHICH IS NOT PAID FOR.

In the March number of the *Maritime Medical News* (Halifax, N.S.), we notice an article expressing satisfaction with the defeat of an attempt to impose compulsory notification of births upon the physicians of St. John, New Brunswick. It appears that last March a number of the physicians of St. John had been haled before the police magistrate for refusing to report the

births which had occurred in their practice. The prosecution was taken under, and by virtue of, the Vital Statutes Act, recently enacted by the Legislature of that Province; but, upon representation by counsel, the information was withdrawn on the ground that the exclusive right to legislate upon vital and statistical matters does not belong to the New Brunswick Legislature, but to the Parliament of Canada.

The registration of births is a necessary adjunct of civilization and, if the medical profession of St. John, or of any other municipality in New Brunswick, refuse to register births, they should give satisfactory reasons for their refusal. We do not think they can do so. The mere recording of the fact that a child has been born is very easy, calls for no professional knowledge, and, although it is of considerable value to the State, puts the medical practitioner who does it to but little inconvenience. The legal defence put forward by the medical profession of St. John, one which had the merit of being successful, is quite another matter. If this defence is valid in New Brunswick, then, by similar reasoning, the Act respecting the registration of births issued by the Registrar-General of Ontario is invalid, and the collection and registration of births in Ontario is continued and carried on largely owing to the good-will of the medical practitioners.

An associated question demands our consideration. In the Ontario Registration Act, it is also provided that "every duly qualified medical practitioner, who was last in attendance during the last illness of any person, shall forthwith, on notice of the death of such person, send to the Medical Health Officer of the municipality in all cities, towns and villages, for inspection and subsequent transmission to the Division Registrar, or, in case there is no Medical Health Officer, and a death occurs in a township from a non-contagious disease, then direct to the Division Registrar of the Division in which the death took place, according to the form prepared by the Registrar-General, to be provided by the Division Registrar, who shall be furnished with such forms, and who shall supply them to the qualified medical practitioners resident within his division."

It is stated in another section of the Act that refusal or neglect to report a death within the time required shall leave a

medical practitioner liable for every such offence to a penalty not exceeding \$10 and costs.

It will be readily acknowledged that the registering of a death calls for more knowledge than the notification of a birth; the latter is the mere announcement of a very simple fact, the former calls for accurate professional knowledge, before it can be done in a proper way. To be valuable, statistics of mortality must be accurate. The motto of the medical statistician should be, "Causas mortis docebo," but the cause of death must be properly stated to him by the medical practitioner before it can be properly classified. So that, in this particular, the entire value of mortuary statistics depends on the clearness and certainty with which medical practitioners supply the required information. The latter are the chief and principal agents in the matter, as statistics of causes of death, in particular, are wholly dependent for accuracy and scientific value upon the knowledge expressed, and upon the carefulness and precision in the statement of causes of death in their certificates.

That there is much lacking in this respect anyone familiar with the mortuary statistics of life insurance companies will readily admit. That much schooling in the science of medicine and a more careful recording of professional observations among practising physicians are requisite, seems equally true. The student will have to be grounded in the knowledge of this subject while he is yet at college, instruction being supplemented by practical work in the classification of causes of death, and in the tabulation of statistics. When the student becomes a practitioner he will have a more definite knowledge of the purposes and uses of registration and of how far the value of the recorded data and the resulting statistics are dependent on him.

To secure his interest and hearty co-operation in the compilation of vital statistics, would it not be more advantageous to have his love rather than his fear? Would it not be preferable to offer him a small fee for his labor, rather than to threaten him with a fine for non-compliance with the law?

Another piece of professional work for which fees are not given in Canada, is the compulsory notification of contagious diseases. The prompt reporting of these diseases to the municipal health department is the surest means of preventing extensive

outbreaks—in fact, it is the corner-stone of the hygienic edifice. For example, the people of Toronto are vitally interested in the stamping out of diphtheria, and the civic health department cannot secure this desirable result, unless notification of each case of the disease is given by the attending physician. The interest of a physician in a case of diphtheria is not similar to that of the civic board of health. The physician's interest lies in curing the disease; the board of health tries to prevent the spread of the disease. Hence, if the people of the municipality wish that their health department should do efficient work, they ought to secure legislation providing that physicians who report cases of diphtheria shall be remunerated. In England a medical practitioner is entitled to a fee of 2s. 6d. for reporting a case of diphtheria. There is no reason why a physician in Canada should not get a fee for doing similar work. Philanthropy is a fine thing, but physicians should be allowed to choose their opportunities for exercising it.

J. J. C.

LOCKJAW CURED BY DRUGS.

IN *The Daily Medical* (March 5th), we notice the report of a case of lockjaw treated successfully in the City Hospital of St. Louis, Missouri, by the use of anti-tetanic serum, combined with morphine, chloral hydrate and other antispasmodics. The patient, a painter, had fallen and broken his thumb, December 9th, 1903. The injury did not receive careful attention, and on December 20th, eleven days afterwards, the patient exhibited symptoms of lockjaw. In spite of the vigorous use of anti-tetanic serum, his condition became worse, and on January 4th, 1904, his jaws completely locked, and his neck became rigid. The anti-tetanic serum was continued, and, by the use of morphine, chloral hydrate and other antispasmodics, convulsions were averted until January 13th, 1904. The convulsions were not severe at that time. The convulsions recurred several times, but by keeping the patient under the influence of the drugs, a fatal termination was averted, and finally the locked jaws began to relax. From that time onward, recovery became assured, and the patient recuperated enough to be discharged (March 2nd, 1904), sixty-three days after the battle with tetanus had begun.

A similar case occurred in the practice of Dr. Potherat, Paris, and the patient was presented to the Surgical Society of Paris, February 24th, 1904 (*La Presse Medicale*, 2 Mars, 1904). This patient, a lad of sixteen, was attacked with stiffness of the jaws eight days after he had received a wound in the hand from a pistol-shot. Subsequently, his jaws became locked and convulsions appeared. After admission to the hospital, an injection of 10 c.c. of anti-tetanic serum was given him, but without the slightest benefit. Dr. Potherat then instituted the old treatment with large doses of chloral hydrate. The wound was cleansed, and upwards of a score of bits of lead were removed from it. The patient was then placed in strict isolation and treated with very large doses of chloral hydrate, as much as 30 grams a day. After the third day, the symptoms of lockjaw began to yield. Treatment with chloral hydrate, the doses varying from 10 to 15 grams a day, was kept up for thirty days longer. At the time when Dr. Potherat's patient was presented to the Society of Surgery, seven weeks had elapsed since the receipt of the injury which had caused the lockjaw.

During the subsequent discussion on Dr. Potherat's paper, Drs. Bazy, Labbe, Lucas-Championiere and Terrier expressed great confidence in the effects of isolation and heroic doses of chloral hydrate in the treatment of tetanus. None of these surgeons felt any confidence in the therapeutic powers of the anti-tetanic serum, although some of them thought that it might exercise a preventive influence. Dr. Terrier would not concede even that small merit to anti-tetanic serum. He cited the case of a wounded patient in his practice in whom preventive injections of serum failed to prevent an attack of lockjaw, two months after the receipt of the original injury. The lockjaw did not yield to intra-rachidian injections of serum, which were administered with great difficulty owing to the contracted condition of the muscles of the patient's trunk. After receiving very large doses of chloral hydrate, Dr. Terrier's patient finally recovered. Dr. Reclus, who also discussed the paper, stated that he had seen lockjaw supervene two weeks after the administration of an anti-tetanic, preventive injection.

Since the dawn of antiseptic surgery, lockjaw has become less common than formerly. Sometimes, however, lacerated and

punctured wounds, frost-bites and burns, which may have been exposed to infection by the Nicolaier bacillus, are not brought to the surgeon's notice until the mischief is done. Should lockjaw supervene, the battle with the disease will be protracted in any case, and the attending surgeon ought to be sure of his weapons of defence. Hence the satisfaction we feel in referring to the eulogy of chloral in tetanus expressed by the surgeons of St. Louis and of Paris. So good an authority as Lucas-Championiere says that even M. Nocard, the inventor of the anti-tetanic serum, has no faith in the therapeutic value of this serum in tetanus. A few cases, it is true, have been reported, in which cure has resulted from its use; but, in these successful cases, doses of the serum amounting to 500, 900, and even 2,500 grams were given, and generally in the form of intra-cerebral injections.

The natural inference from these data is that, although the prognosis of tetanus is always unfavorable, its prominent symptoms—lockjaw and convulsions—may be controlled by heroic doses of chloral hydrate. Chloroform may also be given to prevent the onset of the convulsions of tetanus. It goes without saying that the site of the wound or injury, from which tetanus has developed, should receive the most careful antisepsis; any foreign body, spiculum of bone, or other cause of irritation being promptly removed.

J. J. C.

NATURAL ABILITY AND SKILL vs. POLITICAL PULL.

THE following editorial appeared in the St. John (N.B.) semi-weekly *Sun* of March 2nd, 1904, and will doubtless interest our readers, many of whom feel that, in the matter of similar appointments in our own Province a like state of affairs has frequently existed, and that those, in whose hands the giving of such appointments lies, do not sufficiently consider the question of ability on the part of prospective appointees, as much as they do political considerations. Natural ability, skill and competence should invariably come first in considering whether the candidate is suitable or not, the Government, at the same time, always bearing in mind also that those longest in the service, and therefore the best fitted for such work, should have the preference over neophytes who may be better able to do, what seems to be, the necessary wire-pulling:

"About a fortnight ago all the St. John papers announced that the Government had decided to appoint Dr. J. B. Travers to the position of superintendent of the Hospital for the Insane. The statement, which first appeared in the *Globe*, was said to have come from an authoritative source. George Robertson, M.P.P., a day or two later at a public meeting pronounced this report 'scandalous,' and declared that no action of the kind had been taken. Nevertheless there is a persistent belief on the part of many friends of the Government that the matter has been arranged, and that the appointment will soon be formally announced.

"Under these circumstances it is difficult to discuss the subject without giving it the appearance of a personal question. Yet it is no reflection upon Dr. Travers as a man or a doctor, to say that the time has come for the appointment of a trained and skilled alienist to this position. Some five hundred patients afflicted with mental disease are always under treatment in this hospital, and it hardly needs to be argued that they should be under the care of a specialist in mental diseases. If the institution were a hospital for the treatment of diseases of the eye or ear, or for the cure of cancer, or for the straightening of twisted limbs, appropriate superintendence would be obtained. How much more should this be the rule in a hospital for insane people, whose malady is so much more difficult to understand and to cure, and so much a greater calamity than a purely physical disease. It would not be more absurd to appoint a dentist to superintend an orthopedic hospital than to place a general practitioner in charge of a hospital for lunatics.

"Four successive superintendents have been appointed by the Province over this institution. Not one of them could be thoroughly qualified, though at the beginning there was more excuse for the appointment of a superintendent who, so far as this class of disease goes, was a mere laymen. Fifty years ago it was an advance to establish a home of any kind for the insane, and the principal object then in view was their shelter and the protection of society. But even then, as Rev. Mr. Phillips has shown in his paper on the care of the insane, Dr. Peters, the first of the New Brunswick superintendents, expressed the opinion that a man in his position should have been qualified by special study and ex-

perience in the institutions of Europe. The Government and the people of this Province should now have reached the point at which Dr. Peters arrived before most of the Provincial ministers were born.

"The leader of the Government has begun an investigation of the affairs of the New Brunswick Hospital for the Insane. This enquiry, which has not been completed, must have been undertaken for good and sufficient reason. Whatever finding may be reported by Mr. Tweedie, he will not be able to convince the people that the hospital is as well managed as it ought to be, so long as he makes the superintendency a mere prize of politics and fails to obtain a skilled and trained specialist for the chief position.

"We are not saying that the patients are badly cared for physically, or that they are not well fed, or they are treated with unkindness. These are questions which Mr. Tweedie may perhaps determine in the course of his investigation. But the hospital is not merely a mere place of detention and a boarding-house. Like other hospitals, it should be a place where patients go to be cured, and where those who are curable should have their malady studied, and be treated with a view to their restoration to health just as is done in the general hospital with patients taken there to be cured. It may of course be said that the staff is inadequate for such service, and that the environment of an insane person surrounded by other insane persons is not favorable to cure.

"But that is no reason. The main idea of the hospital should be the idea of cure. The care and detention of the incurable insane should be subsidiary. With the staff and buildings as they are a specialist who has been trained to this particular business should do better than an amateur. With an adequate staff and an ideal equipment a competent and trained superintendent would still be necessary.

"Of course it will cost more to have the work done right. But it costs the Province from \$100 to \$200 a year for each patient in the hospital who might be cured and sent away. That loss is but a fraction of the injury inflicted upon the family of the patient, or the patient himself, and upon the country at large."

W. A. Y.

EDITORIAL NOTES.

The Cigarette in Canada.—The enormous increase in the manufacture of cigarettes in Canada (138,000,000 in 1902, 178,000,000 in 1903) and the evil effects on minors which result from the smoking of cigarettes, formed the nucleus of a discussion in the Canadian House of Commons, March 23rd, 1904. In closing the discussion, Sir Wilfrid Laurier stated that "the Minister of Justice had been looking into the matter, but had been unable as yet to find any remedy which could be submitted to the House. Perhaps at some future date he would be able to give some information to the House on this subject." Although no prohibitive enactment may ever be made against cigarettes by the Canadian Parliament, the reports of this discussion which appeared in the newspapers of the country will attract the attention of boys and young men, and will set them thinking. When men of culture, leaders of opinion in the House, and in the professions, express disapprobation of cigarette-smoking, and condemn the use of tobacco as injurious to the health of the young; when pointed reference is made to the Chicago Post Office and to the great railway corporations in the United States, which have refused to countenance the use of cigarettes by their employees, young Canadians are likely to reject a habit which may prove injurious to their health and will certainly be detrimental to success in many important vocations. Parents, school teachers, and municipal authorities should try to keep down the practice of smoking among boys. To be consistent in his prohibition, a father should not reprove his son for cigarette-smoking, while he continues to indulge in pipe or cigar several times a day. Example is stronger than precept. Tobacco-smoking, particularly cigar-smoking, gives an odor to the person and clothing of the smoker which to non-smokers is repellent. One who smokes every day cannot properly estimate the effect of this odor, but if he gives up smoking, in a week or so his sense of smell will be offended by stale tobacco. Physicians who smoke ought to consider the effects they are likely to produce on the olfactory nerves of women and children with whom they come in contact. Why should the odor of a physician's breath or clothing give the lie to his carefully-washed hands and trimmed nails?

The Metric System.—We learn from the *British Medical Journal* (February 27th, 1904), that the Metric System Bill was read a second time in the House of Lords, on February 23rd, 1904, and although finally consigned to a select committee, it would seem that we have advanced a stage towards the compulsory adoption of the system. The change has been impending for some years. In the last edition of the *British Pharmacopeia* (1898), the quantities of officinal preparations were given according to the metric and imperial systems, so that there has been a gradual education of the pharmaceutical and medical professions in the direction of the metric system of weights and measures. Should the metric system be introduced into Canada, the doctor and druggist will have to do some hard thinking. Some ludicrous mistakes will occur before scruples, drachms and ounces can be relegated to the lumber-room of the brain, and a brand-new decimal system substituted in their place. It may be that N. S. and O. S. prescriptions will compete with one another, the former being arrayed in the decimal fashion, and the latter in the good, old, archaic signs and symbols. The writing of a prescription in the new style will call for a little more of the author's brain tissue than one written in the old style, though it will not secure him a larger fee, so that the change to the metric system will be rather a loss than a gain to old fogies. As far as school children are concerned, the metric system will be a gain. They will not be obliged to learn tables, but being trained to calculate in the decimal system will be saved a good deal of harmful strain. The change will make a good many valuable medical books look rather antiquated—a matter of some importance to book publishers as well as the owners of medical libraries. Even Fahrenheit's clinical thermometer may be affected by the change, a matter upon which editors of medical journals may congratulate themselves, as they will not feel called upon to translate fever temperatures from Centigrade into Fahrenheit. Even our measuring tapes may require metric reformation.

Is Anti-tetanic Serum Useful in the Therapy of Lockjaw?—

While very little confidence is placed in the therapeutic value of anti-tetanic serum in treating a developed case of lockjaw, one of its principal advocates, Dr. Bazy, of Paris, has faith in its preventive virtues, if this serum is used at the proper time and in a

suitable manner. He states that since 1896, he has advised the use of preventive injections of anti-tetanic serum in all cases of suspicious, accidental wounds or injuries. As physicians know, the microbe of tetanus, when introduced into a wound, acts only by the toxin which it secretes. Now, the effect of anti-tetanic serum is to place the cells of the affected organism in such a condition that they are enabled to resist the disastrous influence of this toxin. It is also known that the action of anti-tetanic serum is of a temporary character, as is also the action of anti-diphtheritic serum, or anti-pest serum. If, therefore, there should be in the region of the infected wound or injury a continued production of tetanic toxin, as soon as the action of the antitoxin is exhausted (which usually occurs in ten, twelve or, at furthest, in fifteen days) a fresh quantity of tetanic toxin, elaborated by the living spores of the tetanus microbe, impregnates the nerve cells, and the nerves being no longer immunized by antitoxin, lockjaw develops. Such conditions are exemplified in an infected wound. The leucocytes, whose office it is to destroy common pathogenic germs, leave the living spores of the tetanus microbe at liberty to germinate and produce their toxin, which remains inactive as long as the organism is protected by anti-tetanic serum, but becomes hurtful as soon as its preservative action has disappeared. Hence Dr. Bazy thinks that the injection of anti-tetanic serum, in the case of a suspicious infected wound, should be renewed every tenth day at the latest. If lockjaw should supervene in a patient, the bearer of an infected wound, who has received but one injection of anti-tetanic serum, he does not think that such a result should be taken as a failure of anti-tetanic serum to prevent lockjaw.

Poisoning by Corrosive Sublimate.—A report showing the effects of poisonous doses of corrosive sublimate in producing lesions of the viscera, was presented by Drs. Spillman and Blum at a meeting of the Nancy Medical Society (December 9th, 1903). A woman, 30 years of age, drank a liquid containing three grams of corrosive sublimate. She was treated immediately by the administration of an emetic, and the employment of gastric lavage. For forty-eight hours no bad symptoms were noted. Then a fetid diarrhea, with bloody stools, appeared suddenly, with salivation and tender gums. The tongue and face

became edematous, the edema increasing by little and little, and, after a period of quiescence, lasting for thirty-six hours, fatal convulsions occurred. At the necropsy, among other lesions, gangrene of the internal surfaces of the cheeks, the gums and the rectum, with ulcerations of the gullet, edema of the stomach, vegetations of the mitral valve, and softening of the right occipital lobe, were found. The kidneys, enormously enlarged and white in color, showed the signs of acute parenchymatous nephritis. During life, however, the urine did not contain a trace of albumen: but in considering this paradoxical fact, the profuse diarrhea ought to be remembered, as the absence of albumen in the urine may have depended on the intensity of that symptom. The lesions of the kidney caused renal insufficiency, with oliguria and convulsive seizures. The rather tardy appearance of the fatal symptoms (another abnormal fact) and the long duration of the patient's survival, made the reporters incline to the opinion that they had to deal with a case of subacute poisoning, because the emetic and the prompt lavage of the stomach permitted only partial absorption of the drug, although the dose swallowed was very large.

To Prevent the Entrance of Insane, Idiotic, Imbecile or Epileptic Immigrants into Canada.—In a paper, entitled "The Treatment of the Criminal Insane," by C. K. Clarke, M.D., Superintendent of the Rockwood Asylum for the Insane, Kingston, published in this journal last January, the author says: "A far more rigid system of inspection than that in use at present should be adopted—that would exclude the palpably insane and defective; but, in addition to this, the indigent class of immigrants, who show marked evidence of mental defects or disease or criminal tendency should be returned to their own country at any time during a residence of two or three years. This is not an unreasonable proposition, and Federal and Provincial authorities should unite in vigorous action to control the situation as completely as possible." It is to be hoped that Dr. Clarke's recommendations, the outcome of a ripe experience of criminal defectives, may not prove fruitless. If inspection by competent examiners were practised at the chief Canadian seaports, the entrance of many imbecile insane and mentally defective persons would be stopped at the start. If individuals belonging to these

classes are to be returned to their own country, the work of exclusion should be exercised without allowing them to become domiciled among us. We notice in the daily press that a special examiner has been appointed by New York State to prevent the landing of insane, idiotic, imbecile or epileptic immigrants. These defectives have been freely shipped to America by European countries, and they are becoming a serious burden in many American cities.

Syphilitic Chancre of the Inferior Turbinated Bone in a Lad of Seven.—A case of this kind was reported by Dr. Brunon in *Loire Medicale* (December 15th, 1903). The little patient had secondary symptoms when seen by the physician, but though carefully examined, the initial lesion could not be discovered. After some days, an enlarged lymphatic gland of the size of a filbert was noticed on the left side of the hyoid bone, and as the glands of this region are tributary to the pituitary mucous membrane, Dr. Brunon examined the interior of the patient's nose. On elevating the inferior turbinated bone which was resting on the septum, he found a small, intensely red ulcer with punched-out borders, about half a centimetre in size. It was a chancre, and was the channel through which infection had entered. The parents and members of the household were free from chancre. The child was in the habit of scratching himself, and of picking his nose. Besides, he used "to play elephant" by stuffing into his nostrils all sorts of things, such as penholders, pencils, bits of wood, etc. Several hypodermic injections of calomel were used, and the patient ultimately recovered. The practical conclusion is that, when unable to find the route by which syphilis has entered a patient's body, the practitioner should examine the patient's nose with a speculum. This precaution will be all the more necessary if enlarged lymphatic glands in the submaxillary and hyoid regions indicate the probable site of the initial lesion.

The Toxin Treatment of Cancer.—Any treatment of cancer which shows a number of successful results, deserves the very serious consideration of the medical profession. Dr. Doyen, of Paris, isolates from cancerous neoplasms a microbe which is ever identical in its characteristics, and to which he has given the title of "micrococcus neoformans." Cultures of this microbe,

attenuated by different procedures, produce toxins, which Dr. Doyen employs in the therapy of cancers. He has treated 128 cases, with the following results: 58, no results; 47, improved, and still under observation; 21, cured. The cured cases comprise lymphadenomata, sarcomata, epitheliomata, ulcerated tumors, which had become generally diffused or had relapsed after being operated on, etc. Dr. Doyen's statement is certainly very interesting, but before his claim to have discovered a cure for cancer can be accepted, the medical profession must have good opportunities of forming an independent judgment on the facts, and his results must be confirmed by other surgeons.

J. J. C.

Dr. Lesperance's Paper, "Soluble Ferments of Cow's Milk."

—We feel that this paper, as reprinted from a recent issue of the *Medical Record*, New York, will interest our readers. Dr. Lesperance till recently practised medicine in Montreal, and devoted himself to pulmonary diseases. At present he is giving his entire time to research work in the matter of foods, and is consulting expert and chemist to the *Lactoglobulin Co.*, of Montreal. The doctor had a special training in this line of work under the famous Gauthier, of Paris.

PERSONALS.

THERE are 249 women doctors in Great Britain.

CONGRATULATIONS to Dr. D. C. Meyers, of Deer Park, on the birth of a son and heir, a few weeks ago.

DR. DINNICK, a Canadian graduate, has just been appointed one of the house surgeons at the Manhattan State Hospital.

DR. DUNCAN ANDERSON, of Wellesley Street, left town, April 11th, to take a special course in surgery in Philadelphia and New-York.

DR. BREFNEY O'REILLY, son of Dr. Chas. O'Reilly, of Toronto General Hospital, has passed the necessary examination for the degree L.R.C.P. and M.R.C.S. (England).

MR. A. P. WATTS, who up to a few weeks ago had charge of the medical book department of Chandler & Massey Limited, has been appointed sole Canadian agent for the well-known firm of medical publishers, Wm. Wood & Co., New York.

DR. FOTHERINGHAM is convalescing nicely after his recent illness, and wishes to thank the many friends who were so kind

in their inquiries and attention. He expects to resume his practice early in July, after his return from a trip to the Continent and Britain.

DR. CLARENCE L. STARR and DR. ALLEN BAINES have purchased fifty feet each of the property until recently held by ex-Mayor Shaw, on the north side of Bloor St. West, opposite McMaster College. Both gentlemen will build at once, and expect to move into their new residences this fall.

THE announcement was made on April 12th that Dr. L. D. L. Harwood has been appointed professor of gynecology in Laval University and also chief of the gynecological department of Notre Dame Hospital, in each case as successor to the late Dr. Brennan. In addition to these honors, Dr. Harwood has been chosen president of the section in gynecology of the Medical Congress of French-speaking Physicians of North America, which is to meet here this year.

THE medical book department of Chandler & Massey Limited, 235 Yonge Street, is now under the management of Mr. A. McFadyen. This gentleman has had sixteen years' experience in medical books, having been, for nearly that length of time, with J. A. Carveth & Co., of this city. Mr. McFadyen is well known and highly thought of by the profession, not only in Toronto, but all over Canada, and what he does not know of current medical literature—well, it is hardly worth bothering about. We think that Messrs Chandler & Massey made a wise choice in appointing Mr. McFadyen, and feel that he will do a good deal towards furthering the interests of the book department of their firm.

Kingston Nurses Graduate.—On the afternoon of April 6th the Nurses' Residence in connection with the General Hospital, at Kingston, was formally opened. It was erected by the citizens, on whose behalf Prof. Marshall handed over the fine stone building to the chairman of the Board of Governors, Mr. Donald M. McIntyre. The dedicatory service then followed, Rev. Dr. Mackie, of St. Andrew's Church, officiating. Afterwards, the nurses' graduating ceremonies took place, the graduates being addressed by Bishop Mills. Twelve nurses received their diplomas, viz.: Miss Florence Bouck, Morrisburg; Miss Jennie Birmingham, Gananoque; Miss Etta Montgomery, Peterboro'; Miss Lizabell Howell, Millbrook; Miss Minnie Pixley, Kingston; Miss Carrie Edmison, Peterboro'; Miss Grace Nourse, Sherbrooke, Que.; Miss Edythe Davidson, Rochester, N.Y.; Miss Bertha Houston, Belleville; Miss Beatrice Armstrong, Trenton; Miss Birdie Smith, Hamilton, and Miss Belle Morrison, Toronto.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

THE ST. LOUIS CONGRESS ON TUBERCULOSIS.

Open Letter to Mr. Clark Bell, for the American General Public and the Medical Profession.

MY DEAR SIR,—I am extremely distressed to learn from your letter that great dissension has occurred between the Medico-Legal Society, which has organized the Congress, and a great number of the medical profession. As a foreigner, I cannot know the reason, or the reasons, of the discontent of your medical profession. I cannot believe that the circumstance that the Congress was summoned by a Society which is not exclusively a medical one, is the main reason of this discontent. No person doubts that misery is the principal source of tuberculosis, and as it is an historical truth that prevention is better than cure, and as we may be sure that this truth is also prophetic, we must say that prevention of misery is the most efficacious help for tuberculosis. Prevention of social misery is surely not a special task for physicians.

To abolish misery we should raise the conditions of family homes of the poor, to make cleanliness possible and to accustom the poor to it. We ought to protect them from the use of infected bedding and body-linen. We should save the wretched from the injuries of cold and heat, from starvation, from prostitution through misery, from alcoholism through despair, etc.

For these duties we need the collaboration of philanthropists, of the representatives of communities, countries and states. We need money and laws for that purpose. We need a law to be able to separate an infectious phthistic from his family even against his own will. But we are then obliged to compensate the family for the loss of his earnings, if through such loss his relatives are in danger of perishing of misery.

The medical profession could not supply these duties from their own economical means.

I hope to prove at the Congress that the protection of tuberculous individuals, and principally in light cases, must be quite another than that of phthistics, and that we need for the protection of the first class a widely organized patronage. It is principally for phthistics that we need special and hospital-liking sana-

toriums. The idea of these institutions is a merit of the medical profession; the execution of this idea is a matter for society, which should before all resolve the economic problem. One needs for this institution not only the collaboration of physicians, but also that of architects, of technical men and of administrative talent. Good and wholesome water becomes then a fundamental exigence; to supply it we need the collaboration of geologists and of technical men.

In reference to all these indispensable collaborations, the model British Congress on Tuberculosis was summoned not only by doctors, but also by "laymen," and these were invited not only by medical authorities, but also representatives of the Government, the Mayors of the cities, members of Parliament, philanthropists, etc. And they were present, and this presence is necessary; it makes them zealous partizans by means of immediate impression. But not only this Congress was not specially professional. The Congresses on Criminal Anthropology unite the heads of juridical and biological science, pedagogues, administrative authorities and philanthropists, the same elements you find at the Congresses of patronage.

Can you imagine a Psychological Congress without biologists, or would a Congress on Statistics be possible without the collaboration of physicians, judges and administrators?

We think that the high scientific schools must represent the *Universitas Scientiarum*; the more before all the Congress on Tuberculosis must represent the *Universitas Societatis Humanæ*.

But I feel myself impelled from the interior of my intellect, but in no way from the interior of my heart, to reproach you for having elected me as Honorary President, and for having given me an isolated high place which does not correspond to my scientific position in the question of tuberculosis. I am, to a certain degree, an outsider in this question, and it may be that I should never have written a word about this matter. I had not been invited to collaborate for the British Congress. I took that as consultation of my British colleagues, and I communicated to them then my personal experiences and my own ideas on the matter.

There are many scientific men who have made eminent researches and experiences about tuberculosis, and with them I cannot compare myself in merit. I place my dignity as Honorary President at your disposal, while remaining profoundly touched by your kindness. I shall come to the Congress also as a simple member before all, because I think I may have to tell you one or another thing which might not be told by any one else. I shall come not only on account of the interest I take in the Congress, but also for other reasons.

Since my youth I have had the desire to see the United States with my own eyes, and, above all, to become acquainted with its

citizens, its learned men, its medical profession, and its institutions. My interest in the American medical profession was awakened many years ago by your dentists. I said to myself, behind those teeth there are good heads. As my knowledge of American authors increased, I was confirmed in my conviction that it is so.

In general, I am of opinion that from the United States will come a complete renaissance of modern social life. You have profited by all the traditions of European nations, and you do not suffer from the drawbacks of these traditions which weigh so heavily on European evolution. In your whole life, and therefore in your institutions, individual intellect and energy of will have ample scope for plenty of evolution. The multitude of representative parliaments afford opportunity for all sorts of social improvements and of legal reforms without being hampered by the fatal social organizations of different classes as on the old Continent.

The rich evolution of individualism has created in America a highly interesting species of gentlemen. In Europe every progress is an outcome of the "Schools." You have an original species of men, whom I should name the problemists. In technical questions they form a "profession of inventors," also in science it may happen that a gentleman is stroked by a problem. They may be not enough prepared scientifically. Then they appropriate to themselves as self-made men the necessary knowledge and the necessary dexterity for the solution of the problem.

I hope to be able to shake hands with one or the other of them, and I say to you, my dear sir, "Au revoir a St. Louis."

Yours faithfully,

PROFESSOR M. BENEDIKT.

Vienna, March, 1904.

Thyro-iodine in Goitre.—The interesting discoveries made in recent years as to the curative properties of iodine in respect to such diseases as goitre and dropsy, were the subject of a paper read at the Canadian Institute on April 9th by Prof. Macallum, of the University of Toronto. In cases of goitre, he said, the presence of iodine has been discovered in the thyroid gland, and a compound isolated from the gland, and known as thyro-iodine, has been found to possess extraordinary remedial powers, preventing the progress of dropsical tendencies, and the clogging of the tissues associated therewith in such diseases as goitre and myxœdema. The Professor said that a vegetable diet, owing to the greater proportion of iodine which it contains, is more favorable to the development of goitre than a mixed diet. Chalky soils also favor the disease.

News of the Month.

AN IMPORTANT JUDGMENT IN FAVOR OF FAIRCHILD BROS. & FOSTER, NEW YORK.

THE following is an important judgment rendered by the Supreme Court State of New York on March 24th last, in favor of Fairchild Brothers & Foster, New York, in their action against Morris Dlugasch and Herman Finkelstein, doing business under the firm name of the Broadway Drug Co., New York:

"The summons in this action, dated the 20th day of October, 1903, and the complaint herein, verified the 20th day of October, 1903, having been duly served on the defendants on the 21st day of October, 1903, together with an order to show cause, containing a preliminary injunction against the defendants and each of them, dated the 21st day of October, 1903, and an undertaking having been filed by the plaintiff herein and duly approved by the Court, and an order of injunction *pendente lite* having been granted and entered herein on the 30th day of November, 1903; and the defendants having answered by their answer verified the 9th day of November, 1903, and having on the 23rd day of March, 1904, offered in writing to allow judgment to be taken against them to the effect that 'the said defendants and each of them, and their servants, agents and employees, and all persons acting in their behalf, be prohibited, restrained and enjoined perpetually from selling, dispensing, advertising or displaying at the drug store of said defendants at No. 177 Broadway, Borough of Manhattan, City of New York, or elsewhere, any chemical or pharmaceutical preparations of any sort or kind whatsoever bearing signs, labels or wrappers marked "Fairchild" or "Dr. Fairchild," or any similar word or words, or purporting to be made by "Dr. Fairchild" or "Fairchild," which said preparations are not manufactured by plaintiff;' and the plaintiff, on the 23rd day of March, 1904, the same being within ten (10) days after service of said offer of judgment having accepted said offer, as appears by the affidavit of Arthur F. Gotthold, duly verified the 23rd day of March, 1904, and hereto annexed; and the parties herein having adjusted the money damages and costs as prayed for in the complaint;

"Now, on motion of Gould & Wilkie, attorneys for the plaintiff herein, it is

“Adjudged that the defendants and each of them and their servants, agents and employees, and all persons acting in their behalf, be and they hereby are prohibited, restrained and enjoined perpetually from selling, dispensing, advertising or displaying at the drug store of said defendants at No. 177 Broadway, Borough of Manhattan, City of New York, or elsewhere, any chemical or pharmaceutical preparations of any sort or kind whatsoever bearing signs, labels or wrappers marked ‘Fairchild’ or ‘Dr. Fairchild,’ or any similar word or words, or purporting to be made by ‘Dr. Fairchild’ or ‘Fairchild,’ which said preparations are not manufactured by plaintiff.”

DR. WILLIAM PEPPER.

A LIFE of the late Dr. William Pepper, of Philadelphia, has recently been published, which provides an object-lesson to medical men and to men of ideas generally. Mr. Thorpe's life of Dr. Pepper cannot but intensify the feeling of admiration universally felt by Americans and also by Englishmen for that great man. Dr. Pepper's sole aim in life was the advance of education. To this end he labored incessantly, and although in his later years afflicted with an incurable and most painful malady, he still endeavored to carry out his views. He was Provost of the University of Pennsylvania, and the writer of many important medical works, and conducting an extensive practice, but at the same time he pursued his plans for the advancement of his fellow-man.

Mr. Thorpe tells of the work Dr. Pepper had done by the time he had reached fifty:

“Institutions founded, the University Hospital, the Commercial Museums, and the Philadelphia Free Library; institutions reorganized and re-treated, the University of Pennsylvania; public reforms, the improvement of the city's water supply and an entire change in the attitude of the public mind toward education and the ideals of life. To carry out these plans Dr. Pepper raised over \$10,000,000 and secured about 100 acres of land from the municipality, lying near the heart of Philadelphia. To the execution of this task he gave the service of one of the most acute and, at the same time, the most practical minds ever vouchsafed to man. To this service of his genius he added the personal gift of \$500,000, which he earned in the practice of an exacting profession. It may be doubted whether any other American has run a like career.

When the fact is borne in mind that Dr. Pepper died at the age of fifty-three, it seems almost incredible that he should have crowded into so short a life the amount of solid endurable work

that he did. He undertook no project which he did not carry to a successful issue, and as Mr. Thorpe says, "His love of work and ceaseless activity were a disease incurable, but encouraged by more activity." He had a very large practice, but "his gratuitous practice was equal to the entire practice of many a well-established physician, and on no occasion was he known to refuse his aid because the patient was poor."

The noble deeds of William Pepper add lustre to the whole profession of medicine in America, for, like Virchow, he was not only foremost in medicine but was also a most admirable citizen and public-spirited man. His works are his monument, more enduring than brass, and the history of his life will call attention to the good that he has wrought, and act as an incentive to others. —*Med. Record.*

SENATOR DR. J. H. WILSON.

THE medical profession of the County of Elgin did honor to one of their number whose services have been recently recognized by the Government of Canada when they entertained Hon. J. H. Wilson to a banquet at St. Thomas, on April 8th. There was a large attendance of the physicians of the city and county. Dr. Cascadden, of Dutton, occupied the chair, and in his speech proposing the health of the guest of the evening, said that Dr. Wilson came of a fighting stock. Dr. Wilson, however, had passed that stage and had passed into the serene and quieter atmosphere of the Senate. In tendering him this honor, the greatest that could be conferred, the Government acted wisely. His long experience in public life had made Senator Wilson intimately acquainted with the country. He would, he said, not be surprised if Senator Wilson received further honors, and hoped to see him appointed Minister of Health and Sanitation. He had known the Senator for forty years, and they always had the most harmonious relations, personally and professionally.

Senator Wilson, in replying, said he could not find words to express his feelings. It was a question with him whether the position was an elevation to him or not, as he felt no greater honor than working side by side with his medical brothers. There were no harder workers, or men who made themselves less conspicuous, than the medical profession. He could look back for thirty-three years, when he fought the battles of the profession in the Local Legislature and assisted in carrying a bill for the higher standing of the profession, and all were benefited thereby. After referring at some length to matters pertaining to the profession, the Senator said he asked for forgiveness if he had ever thoughtlessly injured anyone's feelings. If he had, it was unintentionally, and

he was very sorry and ready to withdraw the remark. Remaining in the ranks of the medical profession was a greater honor than being a Senator. Had he stuck to the ranks and kept out of politics, he would have been worth thousands of dollars, but he had no regrets for the course he had pursued.

Among other speakers, all of whom eulogized the new Senator, both as a public man and a physician, were Dr. Kains, Dr. Luton, Dr. Guest, Dr. Sinclair and Dr. Marlatt.

The JOURNAL extends heartiest congratulations to Dr. J. H. Wilson upon this deserved recognition of one of the profession.

LARGER GOVERNMENT GRANT FOR HOSPITALS.

A LARGE deputation representing the hospitals of Ontario asked Premier Ross, on April 6th, for a more generous treatment of these institutions.

The Government grant at present is \$110,000, which amounts to about 16 1-2 cents a head a day. They asked, first, that this grant be increased to \$130,000, which would amount to about 20 cents on each inmate per day.

The present regulations further state that the Government grant shall not be awarded in any case where more than \$3 a week is received from any other source. Under this regulation the municipal grant of 40 cents a day, or \$2.80 a week, which is given for charity patients, is the limit of the municipal grant. The deputation asked that the limit of \$3 a week be increased to \$3.50 a week.

They claimed that the actual cost of feeding and nursing a patient is \$5.60 a week at the lowest. If they received 20 cents a day from the Government and were permitted to receive 50 cents a day from the municipality, it would amount to \$4.90 a week, and that would give them a smaller margin of loss.

The Premier said he would have to confer with the Provincial Secretary on the matter, but he intimated that there should not be much difficulty in raising the \$3 a week limit.

On the deputation were Dr. O'Reilly, General Hospital; Dr. Ferguson, Western; Mr. Roper and Mr. Gurney, Grace; Dr. McLaughlin, Owen Sound; Dr. McLeod, Barrie; Adam Beck, London; John Billings, Hamilton; Dr. Rutherford, Hamilton; Denis Murphy, Ottawa; Dr. Sullivan, St. Michael's; Dr. Wainwright, St. Michael's; Dr. Robertson, Ottawa, and others.

ITEMS OF INTEREST.

For Pure Food.—Both an American and a Canadian firm that were selling canned tomatoes, colored with anilin, in Montreal, are being prosecuted for fraud.

Six New Professors for Manitoba University.—The Council of Manitoba University has decided to engage six new professors in botany, physics, chemistry, mathematics, physiology, and bacteriology. The assets of the University are worth a quarter of a million.

Improved Street Bins.—Galvanized wire baskets were fixed recently to all the street orderly bins in Queen Victoria Street, London, Eng., with an enamelled plate above them requesting that orange peel, banana skins, bits of waste paper, etc., should be placed therein instead of being thrown in the streets.

New Wing for Galt Hospital.—The Galt Hospital Board decided recently to ask the Town Council for a loan of ten thousand dollars to build another wing to the hospital, another story to the nurses' cottage, and a new operating room, equipped with all modern appliances and facilities. They agree to pay four per cent. per annum on this sum for twenty years.

Military Medical Supplies.—The medical branch of the militia department has purchased a large supply of material and equipment that will add materially to the efficiency of this service. The purchases include eighteen ambulance wagons of a new type, designed by Lieutenant-Colonel Fiset, Director-General of the Canadian Army Medical Service, each wagon having room in it for four patients lying down, or thirteen sitting up.—*Jour. Am. Med. Assn.*

Doctors' Incomes.—The *Canada Lancet* is authority for the statement that the average income of the doctors in Ontario does not fall below \$2,000 a year. This would give a total of \$7,000,000 for the 3,500 doctors of Ontario. On an average it may also be assumed that doctors give at least 10 per cent. of their time to charity work. This would represent about \$700,000 as the contribution of the doctors of Ontario towards the general public good.—*News.*

A Model Student.—The Queen's medical convocation took place on April 8th, Sir Sandford Fleming presiding. A feature of the proceedings was the presentation of a prize to E. W. De-long, of Gananoque, by Dean Connell, who has decided to follow out a scheme inaugurated three years ago by the late Principal Grant. The prize is for the student whose morals stand highest. The graduates were asked to cast a ballot for the purpose of choos-

ing the one among their number who they conscientiously thought would do the right thing at all times.

Dr. H. C. Featherston.—The death occurred on April 8th at the residence of his father, Mr. A. M. Featherston, of Dr. Herbert C. Featherston, at the early age of twenty-five years and three months. Dr. Featherston graduated from McGill University in 1902; he subsequently went to Edinburgh, where he took the three degrees of the Royal College of Surgeons. In November last he returned home in a somewhat feeble state of health from overwork, and suffering from a bronchial trouble, pleuropneumonia subsequently supervening.

Provincial Board of Health.—The second quarterly meeting of the Provincial Board of Health will take place on May 4th and 5th at the office of the secretary, Dr. Hodgetts. Among other business, important reports will be presented by the Committee on Epidemics and the Committee on School Hygiene. The third quarterly meeting of the P.B.H. will be held at Sarnia, Ont., in July. It is proposed to investigate the condition of the water supply of that town, which has been thought to have caused several cases of typhoid fever.

Medical Men Abroad.—Drs. J. Alex. Hutchinson and George E. Armstrong, of Montreal; Murray McLaren, of St. John, N.B.; Dr. Olmsted, of Hamilton, Ont., and W. G. Anglin, of Kingston, sailed from Boston for Naples, April 9th, and will journey through Italy, visiting the leading hospitals, and finally going to Vienna. Dr. Anglin has just recovered from a very severe attack of septicemia. Dr. B. L. Riordan, of Toronto, went to Boston to see the party off, afterwards spending some days round the city with Dr. Burrell, looking through the Massachusetts General Hospital, the new relief station, and other interesting sights.

Royal Visit to Finsen Ray Institute.—King Edward and Queen Alexandra on April 9th visited the Finsen Ray Institute, where there is a large number of patients who presented Her Majesty with a magnificent bouquet. Their Majesties conversed with the patients lengthily. The King ordered Sir Francis Laking, the physician-in-ordinary to His Majesty, to study the improvements made in order to apply them to the Ray Institute in London. Afterwards their Majesties visited Prof. Finsen, who has been ill for some time past. The professor, as our readers know, is the inventor of the Finsen Ray system for the cure of lupus.

The Protozoa in Disease.—The *Century Magazine* for April contains two articles that are in different ways of medical interest. In the first Prof. Gary N. Calkins, of Columbia University, furnishes a very readable account of the protozoa in disease and

gives in an intelligible manner the general facts in regard to the development of these disease-producers with which we are specially concerned. The article is illustrated by original drawings from the author's own pen and may be considered as authoritative, though appearing in a popular magazine. He assumes perhaps a little too much in admitting—as it appears to us that he does—that the protozoan origin of scarlet and yellow fevers has been discovered, but that does not detract from the general value of his article. Furnishing as it does in a brief but very comprehensible way the main biologic facts in regard to pathologic sporozoa which are probably not known to the great majority of physicians, the article is well worth reading by medical men.

Weir Mitchell on George Washington.—The other contribution in the *Century*, referred to above, is by Dr. Mitchell, whose literary achievements have widened his reputation so well earned by his work in medicine. It is in a measure a sort of historical novel, as it is in the form of an assumed biography of George Washington. We do not see that Dr. Mitchell has attempted to cultivate or imitate Washington's style as we know it from his state papers and addresses. We doubt whether Washington could have expressed himself anywhere nearly as well as Dr. Mitchell does it for him. Still he might have very naturally thought out the same thoughts and the paper shows a very close study of the early and family history of the father of his country. Medical men will find of interest this latest contribution of a colleague who has reflected honor on the profession in more ways than one.—*Jour. of the American Med. Assn.*

Ontario Medical Association.—The twenty-fourth annual meeting of the Ontario Medical Association will be held in Toronto, in the new Medical Buildings, Queen's Park, on the 14th, 15th and 16th of next month. Any member desiring to read a paper should forward the title to the secretary by the 15th of the current month. It is desired that all papers be in the hands of the Committee by May 31st. The usual fifteen minutes are allowed for the reading of a paper. If too long to be read in this time an abstract may be presented. Dr. A. A. Macdonald is Chairman Committee on Papers and Business. Dr. Charles P. Lusk is General Secretary, his address being 99 Bloor St. West, Toronto. The Minister of Militia, Sir Frederick Borden, his parliamentary duties permitting, will be one of the guests of honor. The present outlook for this year's meeting is most encouraging.

University of Toronto Post-Graduate Course.—It is the intention of the Faculty of Medicine of Toronto University to conduct a Post-Graduate Course extending over the two weeks

immediately preceding the Meeting of the Ontario Medical Association. The programme from day to day will be as follows:

- 9 a.m. to 11 a.m.—Operations and Surgical Clinics in the various Hospitals.
- 11 a.m. to 1 p.m.—Clinical Laboratory methods and practice in the Laboratories of the University of Toronto.
- 2 p.m. to 4 p.m.—Medical Clinics in the various Hospitals.

A fee of \$10.00 will be charged for the Clinical Laboratory work. The details of the time-table will be distributed at the Secretary's office in the University on the first day of the course. It is requested that members of the profession who wish to take this course should notify the Secretary, Dr. A. Primrose, before coming to Toronto. The course will begin on Wednesday, June 1st, and will terminate on June 15th.

Text of an Anti-Spitting By-law.—A by-law to prevent spitting on sidewalks and in public buildings and street cars was passed April 11th, 1904, by the Council of the Corporation of the City of Toronto, as follows: "No person shall spit upon any public sidewalk which is upon a highway, or in any passageway, stairway or entrance to any building used by the public, or in any room, hall or building to which the public resort, or in any street car or other public conveyance, except into a proper receptacle. Any person convicted of a breach of any of the provisions of this By-law shall forfeit and pay, at the discretion of the convicting Magistrate, a penalty not exceeding (exclusive of costs) the sum of one dollar for each offence, and in default of payment of the said penalty and costs forthwith, the said penalty and costs, or costs only, may be levied by distress and sale of the goods and chattels of the offender, and in case of there being no distress found out of which such penalty can be levied, the convicting Magistrate may commit the offender to the Common Gaol of the City of Toronto, with or without hard labor, for any period not exceeding three days, unless the said penalty and costs (if any), including the costs of the said distress and of the committal and conveyance of the offender to the said gaol, are sooner paid. This By-law shall come in force on and after the first day of June, 1904.

The Physician's Library.

BOOK REVIEWS.

The Medical Annual. A Year-Book of Treatment and Practitioners' Index. Contributors—Bertram L. Abrams, B.Sc., M.D.; Herbert W. Allingham, F.R.C.S.; James Cantlie, A.M. M.D.; Prof. A. H. Carter, M.D.; Frank J. Charteris, M.B.; E. Henry Fenwick, F.R.C.S.; A. E. Giles, B.Sc.; Edward W. Goodall, M.D.; Wilfrid Jas. Hadley, M.D.; Robt. Hutchison, M.D.; Theo. N. Kelynack, M.D.; Harry Lambert Lack, M.D.; Priestley Leech, M.D.; Jas. Kerr Love, M.D.; John McIntyre, M.B.; Keith Montsarrat, F.R.C.S.; William Murrell, M.D.; Jos. Priestley, B.A., M.D.; R. J. Probyn Williams, M.D.; Walther E. Rathe, M.D.; Boardman Reed, M.D.; Prof. A. W. Mayo Robson; Prof. Robt. Saundby; Jas. Shaw, M.D.; Purves Stewart, M.A., M.D.; Geo. Fred Still, M.A., M.D.; Prof. Ralph Stockman, M.D.; A. Hugh Thompson, M.A., M.D.; Wm. Thorburn, F.R.C.S.; Jos. G. Turner, F.R.C.S.; J. W. Thomson Walker, F.R.C.S.; Norman Walker, M.D. 1904. Twenty-second year. Bristol: John Wright & Co., Stonebridge. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Edinburgh: Young J. Pentland. Glasgow: A. Stenhouse. New York: E. B. Treat & Co. Calcutta: Thacker, Spink & Co. Paris: Boyveau & Cheillet. Melbourne, Sydney, Adelaide and Brisbane: J. Robertson & Co. Sydney: Angus & Robertson. Toronto: J. A. Carveth & Co.

The twenty-second consecutive copy of "The Medical Annual" has just been issued, and, though we regret that it cannot be got out by the 1st of March each year, in place of nearly the 1st of May, yet the 1904 volume undoubtedly exceeds in value any so far published. The Annual is larger, the print is better, and the departure of introducing this year stereoscopic views, makes the volume such that, if for any reason the publishers ceased publication, it would be seriously missed from medical literature. "The Medical Annual" is looked upon by the profession as being a digest of medical literature for the year just ended, and that of 1903 is so extensive as to again necessitate the entire re-writing of the book. Purchasers of the Annual from year to year need not have any fear that they are purchasing anything but the most recent

and up-to-date material in medicine and surgery, all the authors having been most careful in the selection of their matter. The colored plates illustrating small-pox and the infectious diseases are capital, and, what is more important, the book is kept small in its dimensions, and therefore handy for the reader.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, useful for the Prevention of Disease, and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Sen. Asst. Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia, Jewish, and Rush Hospitals, etc. Vol. VII., Mechanotherapy and Physical Education, including Massage and Exercise, by John K. Mitchell, M.D., Fellow of the College of Physicians of Philadelphia; Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Assistant Neurologist to the Presbyterian Hospital of Philadelphia, etc.; and Physical Education by Muscular Exercise, by Luther Halsey Gulick, M.D., Director of Physical Training in the Public Schools of Greater New York; President of the American Physical Education Association; Chairman, Physical Training Committee, Louisiana Purchase Exposition; Chairman of National Basket-ball Committee, etc. With special chapters on Orthopedic Apparatus by Jas. K. Young, M.D., Professor of Orthopedic Surgery in the Philadelphia Polyclinic, etc.; on Corrective Manipulations in Orthopedic Surgery (including the Lorenz method), by H. Augustus Wilson, M.D.; and on Physical Methods in Ophthalmic Therapeutics, by Walter L. Pyle, M.D. 229 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1904. Canadian agents: Chandler & Massey Limited, Toronto, Montreal and Winnipeg.

Not to the orthopedic specialist alone, but to the general surgeon, will Vol. VII. of "Physiologic Therapeutics" prove very interesting. But a glance at the extensive title-page will show the ground covered by Dr. Cohen's volume. The book contains well over 200 illustrations in half-tone, and all of them are good. A study of those which appear in many chapters of the work are most instructive, more especially those showing the series of movements for the relief of the different forms of special curvature. It is not essential that the treatment of the latter condition should lie solely with the orthopedist, the only trouble being that few practitioners have the facilities for having administered to their young patients the course of gymnastics which now form so essential a part in the treatment of the different forms of curvature of

the spine. Dr. John K. Mitchell's section of this work is a most valuable contribution to surgery, the 200 pages being well worthy of the careful perusal of all who desire to read a thoroughly practical treatise on the proper uses of massage and exercise in treatment of disease. The section by Dr. L. H. Gulick on "Physical Education by Muscular Exercise" has a great deal in it of value, and will prove of interest to all who take an interest in athletics and desire to know how best to devote their spare hours in order to gain most physical benefit therefrom.

W. A. Y.

Von Bergmann's Surgery. A System of Practical Surgery. By Drs. E. VON BERGMANN, of Berlin; P. VON BRUNS, of Tübingen; and J. VON MIKULICZ, of Breslau. Edited by William T. Bull, M.D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. To be complete in five imperial octavo volumes, containing over 4,000 pages, 1,600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50 net. Volume I. just ready. 936 pages, 361 engravings, 18 plates. Philadelphia: Lea Bros. & Co.

This exceedingly comprehensive and valuable work by von Bergmann has found a sympathetic and able translator and chief editor in the person of Dr. William T. Bull, of New York. So general was the recognition of the importance of this work that it was at once translated into Spanish and Italian, and the first volumes were out of print before the later ones had passed through the press. The present translation is from the second edition, and is thoroughly up-to-date both in literature and good matter. The editors bring to their work not only a keen enthusiasm and industrious effort, but also a wide surgical experience which enables them to add judicious references to methods of practice which are preferred by the American and English surgeons.

In this first volume the surgical affections of the head are discussed with great exhaustiveness, and in a spirit of scientific fairness. Many of the chapters exceed the scope of the ordinary textbook upon the same subject, and even surpass in some instances the special treatises. The work is chiefly clinical in character, but pathological data also constitute a very important part of the work, together with details of original research and statistical facts, which render it certainly one of the most important surgical works of the day.

The first volume, which is now ready, covers the following subjects: Injuries and Diseases of the Skull and its Contents; Malformation; Injuries and Diseases of the Ear; of the Face, including Plastic Operations and the Neuralgias of the Head: of the

Salivary Glands, including Anomalies of the Jaw; of the Nose and its Adjacent Tissues; of the Mouth and of the Pharynx.

The other volumes of the System will follow in rapid succession.

B. E. M'K.

Précis D'Urologie Clinique. Par AUGUSTE LETIENNE et JULES MASSELIN. One volume in 8vo cavalier de 470 pages, avec 58 figures et une planche hors texte. Prix 12 francs. Paris: C. Naud, Editeur, 3 rue Racine.

The general divisions of this work are as follows: First Part—Chapter 1, Urinary Apparatus; Chapter 2, Physical Characters of Normal Urine in the Adult; Chapter 3, Chemical Composition of Normal Urine; Chapter 4, Urological Relations; Chapter 5, Composition of Normal Urine in Children. Second Part—Pathological Urines: Chapter 1, General Considerations on the Pathological Variations of the Urinary Elements, What One Should Understand by Pathological Variations in Urine; Chapter 2, Urinary Albumens and Their Derivatives; Chapter 3, Urinary Sugars; Chapter 4, Acetonuria; Chapter 5, Urinary Pigments in Pathological Conditions; Chapter 6, Hematuria, Hemoglobinuria; Chapter 7, Pyuria; Chapter 8, Urinary Deposits, Calculi; Chapter 9, Principal Pathological Urinary Types. Third Part—Clinical Methods for Exploring the Kidney. Fourth Part—Microbes and Parasites of the Urine: (a) Urinary Microbes; (b) Worm-Parasites of the Urinary Apparatus.

The above general divisions of the work will give the reader an idea of its practical and scientific scope, and of its usefulness to the practitioner in interpreting a urinary analysis.

It is an abstract of clinical urology, and contains a lot of information taken from anatomy, physiology, histology, and pathology, which will be of great use to the student of urinary biology.

J. J. C.

Our Own and Other Worlds. By JOSEPH HAMILTON, Author of "The Starry Hosts," a prize book of the Science and Art Education Council of London, England. Introduction by Rev. W. H. Withrow, D.D., F.R.S.C. With illustrations. Toronto: William Briggs. 1903.

Anyone desirous of securing a book giving in digested form "the latest thought and discovery" on astronomy should purchase a copy of "Our Own and Other Worlds." It is written by one who has for a lifetime made a careful study of the subject, and is in a position to speak regarding the wonders of the heavens in a manner that will be found to be easily understood, and not a mass of technical and more or less incomprehensible terms. The subject is, of course, limitless, but the author wisely does not attempt to, nor could he, with the meagre space at his

command, go into great detail. He makes his book interesting and instructive.

W. A. Y.

The Sterilization of Urethral Instruments, and Their Use in Some Urinary Complaints. By HERBERT T. HERRING, M.B., B.S. (Durh.), M.R.C.S. (Eng.). London: H. K. Lewis, Publisher.

This is a book that should be carefully studied by every general practitioner, as well as by every surgeon, for there is no branch of surgery in which the ordinary rules of surgical cleanliness are more frequently violated than in that connected with urinary complaints.

Perhaps a practitioner has his instruments sterilized, and his hands carefully cleansed, and then proceeds to pass his instrument, without even washing the penis. Too often, even in hospital practice, have we seen the convalescence long delayed by an acute attack of cystitis, caused by some neglect in the technique that should surround the passing of a catheter.

A careful perusal of Herring's book will enable one to avoid completely the disasters caused by infection, that one has been called upon to remedy.

F. N. G. S.

Starvation Treatment of Certain Malignant Growths. By ROBERT H. M. DAWBARN, M.D. (The Samuel D. Gross Prize Essay.) Philadelphia: F. A. Davis Company, Publishers.

This is a most interesting study, and probably opens a new field for operations for malignant growths affecting the jaw, face, naso-pharynx, etc., that would otherwise seem inoperable, and this, too, with a fair modicum of success.

It is not the "ligation" treatment only, but the excision of the external carotids, and in this we believe it is unique and original.

The work covers a period of several years, and the table of results shows some cases remaining cured after an interval of eight years.

This should encourage surgeons to undertake many of these terrible cases, to which in the past we have been unable to hold out any hope.

F. N. G. S.

Aids to Surgery. By JOSEPH CUNNING, M.B., B.Sc., F.R.C.S., Medical Officer, Royal Free Hospital. London, England: Balliere, Tindall & Cox. 1904. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

This compact little volume covers the surgical field very effectively. The arrangement is good, and the definitions are concise.

The clinical features of each disease are accurately described, and the treatment clearly presented.

It should be of great service to the physician when he has to call on the surgeon. He can have it in his pocket, and when he finds the surgeon "away out" in diagnosis or treatment, he can refer to the "Aids" and have his confrere put right. Students preparing for examinations will find it exceedingly helpful.

J. H.

Surgical Asepsis. By HENRY B. PALMER, M.D., Consulting Surgeon to the Central Maine General Hospital. Ninety illustrations. Philadelphia: F. A. Davis Company, Publishers.

The book evidently aims more especially to demonstrate that surgical work may safely be performed in the patient's home. The surgeon must be careful in his selection of cases suitable for home treatment, as well as his selection of the homes in which it may be carried on. When it seems necessary to operate in the home of the patient, we believe that if the surgeon uses a moderate amount of common-sense—with which every surgeon is supposed to be supplied—he will probably accomplish more in less time than if he adopts the theories of the author of this book.

S.

Dispensing Made Easy. With Numerous Formulæ, and Practical Hints to Secure Simplicity, Rapidity and Economy. By WM. G. SUTHERLAND, M.B. (Aberd.). Formerly House Surgeon, Queen's Jubilee Hospital, Earl's Court, London, S.W.; Civil Surgeon in Charge Orange River Military Hospital, Boer War, 1900, etc. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1904.

This little brochure has been written with a view to facilitate the busy club practitioner in prescribing and dispensing his remedies in a quick and easy manner. It is peculiarly adapted to the style of practice carried on in the British Isles, but there are many useful little hints as to stock mixtures which would be of service to any busy practitioner.

A. J. H.

A Pocket-Book of Clinical Methods. By CHAS. H. MELLAND, M.D. (Lond.), M.R.C.P., Physician to the Ancoats Hospital, Manchester. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1903.

This is a concise little book of 75 pages, dealing with the chemical and microscopical examination of the sputum, gastric contents, urine, feces, pus and blood. The book is precise, as well as concise, and will be found of value to students.

W. H. P.