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Original Communications.

BIER TREATMENT—HYPEREMIA AS A THERAPEUTIC AGENT.*

By S. H. Westman, M.B., Toronto.

Junior Assistant Surgeon, Hospital for Sick Children: Junior Clinical Assistant in Surgery, Toronto General Hospital.

Von Bier has endeavored during the last sixteen years to imitate Nature's methods for the cure of certain diseases by the artificial production of hyperemia in the diseased area. In the introduction to his book, "Hyperæmia—Als Heilmittel," he states, "No reaction to foreign substances of any kind occurs without hyperemia, be that substance a crude foreign body or a minute bacterium, or strong chemical poison; therefore, I may assert: There is no lesion which the body tries to, and is capable of, removing or rendering harmless that produces anemia; it is always accompanied or surrounded by hyperemia." If we, therefore, accept the reactions of the body as useful efforts of nature, we must admit that hyperemia is the most widespread of all auto-curative agents. Now, if we observe how nature works, we learn that, while it produces in all important processes of the body a local hyperemia in the parts concerned, the same is produced as frequently by a slowing as by an acceleration of the blood current.

Differences of the utmost importance, physically as well as chemically, exist between the rapidly flowing stream of arterial blood and the sluggish one of more venous blood.

Von Bier employs two varieties of local hyperemia—venous, or passive, and arterial, or active.

* Read before the Academy of Medicine, Toronto.

Arterial, or active, hyperemia is that form of congestion which is produced by acceleration of the blood stream and by an increased quantity of blood in the part. This condition is brought about clinically by the application of heat, and the real curative factor in this form of hyperemia is evidently the accelerated blood stream.

Other agents besides heat have been used to produce this form of congestion, viz., massage and electricity, and they are probably efficacious because of the hyperemia which they produce.

Heat may be applied by means of the Tallerman's, Betz or Bier oven, or by means of any form of radiant heat apparatus, or by hot sand. The action of these agents not only produces hyperemia of the skin, but a congestion of the deeper parts, particularly of the limbs.

Klapp, an assistant of Bier, maintains that such hyperemia extends to the viscera. He put the abdomen of a rabbit in a hot air apparatus, exposed it for some time to intense heat, opened its abdominal cavity immediately on removal of the animal from the apparatus, and found a hyperemia of the entire abdominal wall, the peritoneum of the intestines and the central tendon of the diaphragm.

Other experiments have been performed, to show that active as well as passive hyperemia not only affects the superficial surfaces, but extends deeply, and involves the whole thickness of a limb, even to the blood vessels of bone.

The other variety of hyperemia—passive, or venous—is the greater curative agent, and is used largely in the treatment of acute and chronic infective inflammation of tendons, sheaths, bones and joints.

Venous congestion is produced artificially by two methods,—

(1) Martin's india rubber bandage.

(2) Vacuum chambers.

The india rubber bandage is used mainly in the production of passive hyperemia in the limb, and by means of this bandage, and depending upon the degree of constriction, one can produce any degree of stasis hyperemia, varying from the mildest to the most intense form.

The most useful degree of hyperemia is the moderate type.

In applying the bandage, care should be taken to see that it is applied above the diseased area, that the folds overlap, and that no other bandages or dressings are wound about the limb below it.

As a result of moderate constriction above the elbow, the subcutaneous veins of the back of the hand and flexor side of the

forearm become swollen, the skin of the arm assumes a bluish color, and the palmar and dorsal surfaces of the hand become rosy red. After three or four hours the skin of the forearm is equally bluish red, the subcutaneous veins less prominent, and a slight degree of edema is present. Friction now produces a bright arterial red color, which disappears in five or ten minutes.

After eight to twelve hours, the edema is much greater, and the arm colder.

If the bandage be applied with the proper degree of constriction, the patient should not experience any pain or inconvenience; the part should feel moderately warm, and the pulse should be felt beating on the distal side of the bandage.

The constriction is maintained for one hour daily, in tuberculosis, and for acute infective inflammation, from eight to twenty hours daily.

If the constriction be severe enough to cause pain in the limb, with decrease in temperature, absence of the peripheral pulse and the presence of vermilion spots, the bandage should be loosened or entirely removed.

To produce passive hyperemia of the shoulder-joint, a piece of padded rubber tubing is used instead of the broad bandage. It is wound around above the joint, and its ends secured above by a pair of forceps. The tubing is prevented from slipping by two straps, which are fastened to the band in front of and behind the shoulder. The straps are pulled taut, and the other ends are tied in the opposite axilla. For producing venous congestion in the hip, no practical method has yet been devised.

The other method of producing and maintaining passive hyperemia is by the agency of a glass vacuum chamber attached to an air-suction pump, or by a large or small cupping glass, the air of which is exhausted by the suction of a rubber bulb.

The limb is placed in the chamber, and the rubber cuff secured in place by a rubber bandage, wound lightly around the leg, so as to ensure an air-tight seclusion, without constriction stasis. The air is thinned by the aid of the suction pump, and kept so by pumping slowly or by turning the stop-cock. The congestion is prolonged for twenty minutes to one-half hour, and should never be intense enough to cause pain or discomfort. The external air pressure draws the limb and rubber cuff into the apparatus with considerable force, so that the patient must endeavor to withdraw the limb at each suction action of the piston, in order to prevent pressure of the limb against the sides or end of the chamber. As the air becomes rarefied the limb

swells, becomes bluish red, and the veins prominent, vermilion spots appear here and there on the skin, moisture collects upon the inside of the glass chamber, often obscuring the appearance of the limb.

Extreme thinning of the air produces hemorrhagic points in the skin, a sense of aching pain and weariness in the limb and a feeling as if the skin were about to burst.

A vigorous degree of hyperemia is produced by the cupping glass, which is used principally for the production of local hyperemia in small and limited inflamed and suppurating areas of the trunk and neck, situations in which the bandage is not applicable. As an agent for the production of hyperemia, its application is limited.

As a therapeutic agent, passive congestion is used in the treatment of acute inflammation and suppuration, mainly in the limbs. In these cases, if a limb be affected, the bandage is applied above the diseased area, so as to produce a slight or moderate degree of hyperemia.

The first striking effect of the constriction, provided that it is properly applied, is the relief of the pain. The limb becomes more swollen, looks more acutely inflamed, the swelling, redness and edema soon extending almost up to the bandage. This apparent change for the worse is rather alarming, and may induce the surgeon to remove the bandage. The constriction should be carefully watched, however, and maintained for about four to eight hours the first day. While the bandage is off, the limb should be bound with an ordinary bandage to relieve the edema caused by the congestion. During the second day, constriction is maintained for ten to fifteen hours, and finally, during the next day, to twenty hours out of twenty-four.

Under this treatment, pain is relieved, and although abscesses do form, they are quickly opened, the discharge soon becomes scanty, and suppuration rapidly disappears.

For the treatment of paronychia, acute inflammation or suppuration in tendon sheaths, gonorrheal or other forms of infective arthritis, etc., this treatment with the stasis bandage gives brilliant results.

In Professor Adami's article on inflammation, in "Keen's Surgery," he there calls attention to the fact that inflammation is a reaction on the part of nature to destroy the irritant or noxa existing in the organism.

"The increased amount of blood which nature determines to the part, and the redness, heat, swelling and pain, may not be the phenomena of excessive reaction, but of inadequate reaction;

the forces which the organism has been able to oppose to the irritant have been insufficient to neutralize it. And if local incision or excision be contraindicated, the rational treatment in such cases is not to seek to reduce the inflammatory manifestation, but, on the contrary, convinced that these in the main are beneficial, and are means whereby the organism antagonizes the poison, to promote and increase the same." Therefore, Von Bier increases the amount of blood to the part, not by poultices of linseed, sugar of lead, counter-irritants, but by the application of a rubber bandage, where possible.

The poulticing, hot applications and retention of heat in the part, employed by generations, served one end, viz., to determine more blood in the diseased area, and to bring the inflammation to a "head," and as these agents produce a hyperemia of the deep as well as superficial parts, why not use instead, where possible, the Bier Stasis Bandage?

For the treatment of tuberculous affections of the bones and joints, Von Bier employs stasis hyperemia by means of the india rubber bandage, inducing a moderate degree of hyperemia for one hour daily, and continuing the treatment for six to nine months. Where abscesses form, they are opened with antiseptic precautions, and, where possible, the cupping glasses are applied to the sinuses for five minutes at a time, followed by five-minute intervals of rest. The whole "cupping seance" lasts three-quarters of an hour.

Where the tarsus or carpus is diseased, the patient is allowed to use the parts for light active movements, and passive movements are employed by the surgeon or friends.

Where the joints affected are large, and subject to pressure, such as the knee or ankle joint, some form of retentive apparatus is applied, and for the first few weeks the patient is kept in bed.

If operation be indicated for the deformity, evacuation of pus or removal of a loose sequestrum, they are employed, but, as a rule, Von Bier avoids too diligent probing, curetting or drainage of the tuberculous focus.

The degree of hyperemia employed is one which is somewhat more intense than the moderate grade described above. The bandage is applied to the limb, always above the disease, and to a different part of the arm or leg, alternately, to prevent the atrophy which inevitably results at the end of a few months from the constriction.

The passive movements employed by Bier, combined with

venous hyperemia, have given much more brilliant functional results than where complete fixation has been employed.

Contraindications to the employment of the Bier treatment in tuberculosis are:

Amyloid degeneration in the viscera.

Large abscesses, filling the whole articular cavity; much deformity of the joints and where the disease involves the hip.

For the treatment of disease of the tarsus and carpus, elbow and ankle joint, Bier's congestive methods have given splendid functional results.

He advocates the use of this treatment, not to the exclusion of other excellent methods, but as an aid to them, where it can be employed.

In conclusion, I should like to say that the application of hyperemia for the cure of gonorrheal joints, inflammation of tendon sheaths and tuberculosis of tarsus, carpus, elbow and ankle joints, have given functional results infinitely better than any other form of treatment.

For the past nine months, Bier's treatment has been employed in the Hospital for Sick Children upon a number of cases of tuberculous disease, and the results have been very encouraging.

The cases so treated have been tuberculous lesions of the hand and feet, mainly, and of the seven cases in which it has been applied, a complete cure has resulted in five, and great improvement in the remaining two. At present, the treatment is being employed in two cases of infective arthritis of knee and ankle joints, and for the cure of two other cases, one of which is a tuberculous elbow, the other, tuberculous disease of the wrist joint.

ETHICS AND DEPORTMENT OF THE PHYSICIAN AS A CITIZEN.

By John Hunter, M.B.

EVOLUTION OF THE MEDICAL CITIZEN.

What man's physical condition may have been, in those ages long since submerged in the oblivion of a bygone eternity, we cannot tell, but we know, that during many millenniums he has been very vulnerable to both disease and injury. He has paid a heavy toll for the privilege of existence. War, pestilence, famine, immorality and intemperance have prematurely filled countless myriads of graves. These malevolent sleuthhounds have persistently and mercilessly menaced his march through all the centuries that have passed away, and in some parts of the world, they are still in full pursuit of their victim with all their virulence.

Common enemies and mutual needs bring men together, in order that they may be the better able to protect themselves. The suffering and disability of sick and injured have always made a sympathetic appeal to the strong and healthy. The accumulation of medical knowledge, and of experience, evolved the necessity for the setting apart of a certain class to use this knowledge and experience in the relief of the sick and disabled; hence the evolution of the physician's calling. As civilization advanced, two needs became manifest: (1st) Educated physicians; (2nd) protection from ignorant impostors. The state enacted laws governing the practice of medicine, and bestowing upon physicians certain privileges. The fact that the state has bestowed these, places the medical citizen under certain obligations to society; hence his ethics and deportment.

These may be briefly considered under the following heads:

I. Ethical obligations as a citizen to remove the causes of disease.

II. Ethical obligations as a citizen to improve social conditions.

III. Deportment.

ETHICAL OBLIGATIONS AS A CITIZEN TO REMOVE THE CAUSES OF DISEASE.

The relationship of the individual physician to the individual patient, as medical attendant, does not come within the purview of this article, and therefore may be passed over unnoticed.

Citizenship in no other vocation calls for a keener appreciation of honor, and of honesty of purpose, than is involved in the ethical discharge of the duties of the medical citizen. The privileges bestowed on him are unique, and carry with them corresponding ethical responsibilities. Take, for example, the case of a contagious disease. When the physician has discharged his duty as a medical attendant, his ethical obligations as a medical citizen demand that he should use his technical knowledge to prevent the spread of the disease. His search for the presence or absence of infection in other members of the family, may require from these, not only the complete surrender of their persons to inspection, but also, a revelation of their habits may be called for, as well as an investigation of the sanitary conditions. These examinations demand on the part of the examiner not only cleanliness of hands and instruments, technical knowledge and skill, but also refinement of thought, and of deportment. For a physician to infect a fellow-citizen through carelessness or slovenly habits, or to act boorishly, would be an ethical abomination on his part.

Another factor in the causation of disease, especially of the digestive and nervous systems, is the morbid and indiscriminate use of drugs and nostrums by the laity. The ethical obligation of the medical citizen in regard to this evil is somewhat unique, for he himself may be a contributing factor to it. Does he not err in the importance he attaches to the use of drugs? Osler emphasizes the great importance of a physician being able to recognize the uselessness of most drugs in the treatment of disease. Prof. Dubois agrees with Prof. Sahli in saying that it is safer to be treated by a physician who gives only harmless remedies than by one who has too strong faith in the curative power of his drugs. Does the physician not often place too great importance on the part the medicine plays in the treatment of a disease? While he is writing a prescription if in the city, a messenger is hurriedly dressing to catch the first street car, or, if in the country, a horse is being hurriedly hitched up for him to get to the drug store for medicine. Many a valuable horse has been ruined in this needless rush. Were the writer a boy again at home on the farm, with the experience gathered from one-third of a century in practice, and from observation in European and in American hospitals, and sent on such an errand, he would be far more solicitous about the care of the horse, than he would be about the time required to get the prescription put up. Is not our conduct a contributing factor in fostering the drug-taking habit, so prevalent among the laity?

Is the physician not under any obligation to explain to the patient and to the laity, who are attending the sick, the natural history of the disease, the inestimable curative virtues in sunshine, pure air, nutritious food, sleep, and rest for both body and mind? To teach that drugs, used intelligently, may be very valuable helps, but that, used indiscriminately, they become very injurious to health? To point out the worthlessness of nostrums and the danger in using them?

A cursory glance through the chapters on etiology in some of the standard medical text-books of even a period no earlier than the first half of the past century—and many of these volumes, in excellence of diction and wealth of learning, are still the peers of any works in medical literature—is enough to show that a great evolution has taken place. Factors that were then given great prominence in the causation of disease have been relegated, in the light of bacteriological science, to the limbo of oblivion. The knowledge that all contagious diseases are due to the presence of pathological micro-organisms, the nature and propagation of which are established facts, places far greater obligations on the modern medical citizen than rested on his predecessors, who believed that the etiological factors in disease were to be found in auto-infection from morbid conditions arising from blood or tissue changes. The physician who confines his attention solely to the conditions affecting the individual who has a contagious disease, if not criminally, is certainly grossly indifferent to his ethical obligations, as a citizen, to society. The tart reply is sometimes heard, "Well, physicians are neither remunerated nor thanked for interesting themselves in preventive measures." This, if true, may be a reflection on the shortsightedness and ingratitude of the masses; but it does not touch the mission of medicine, viz., the prevention and healing of disease. The clergyman is under an imperative ethical obligation to proclaim the Gospel to the rich as well as to the poor; but the former are under just as imperative an ethical obligation to pay for any service rendered them. If a digression be permitted here, the writer has no hesitancy in stating that physicians have largely themselves to blame for the poor remuneration, and for the want of appreciation of their services. We place a very low estimate on the value of our services by the way in which too many of us rush after lodge practice and after every "beck and call" that may come our way. When we are prepared to place a proper value on medical services, the public will soon learn to appreciate them too.

Coming back to the subject of preventive measures, can it

not be said that the widespread prevalence and appalling mortality from tuberculosis cast a ghastly shadow far along the pathway of the medical citizen? He knows not only the cause of the disease, but also the measures needed to prevent its spread; yet where is the evidence of any great zeal that he has displayed in securing its prevention? The only sanitaria in our province were practically initiated by a layman. Can it not be truly said, to the disgrace of the medical profession, that, in the campaign against tuberculosis, it tacitly refused to accept the position of leadership? It must not be inferred from this statement that physicians stood idly by, for individually, and through medical associations, and in medical literature, splendid work has been done. But, nevertheless, it is ethically wrong for the medical citizen to leave the leadership in preventive medicine to the lay citizen. The physician, from his experience and investigations, knows better than the layman the amount of suffering and wretchedness associated with these diseases, and how much of this is preventable. Therefore, in the work of prevention, no matter who helps to carry on the campaign, the medical citizen is ethically bound to assume the full responsibility of leadership.

It is not only in regard to the prevention of contagious diseases that the medical citizen is ethically bound to occupy the regal throne of leadership, but on all questions pertaining to sanitary matters his technical knowledge enables him to speak with authority. This opens up a vast field, but space will only permit a reference to a feature or two, e. g., the site, construction, heating, lighting and ventilation of homes, institutions, factories, etc., transportation, immigration, hours of labor, child labor, character of amusements, in brief, every question pertaining to the physical well-being of the citizen, of society, and of the nation. In the prosecution of great public works, such as the Suez and Panama canals, the technical knowledge of the medical citizen makes him the peer of the great engineer who designs and carries out the work.

It may be said that, with conditions as they are in our complex environments, and with humanity as it is, it is not only a herculean task to attempt to remove all noxious influences from our physical life, but one utterly impossible of accomplishment. However, it is a thousand times better to fail in attempting to do our duty than to be apathetic about it.

> "If it is right, there is no other way;
> Brave words to speak, and braver still to live."

ETHICAL OBLIGATIONS AS A CITIZEN TO IMPROVE SOCIAL CONDITIONS.

However grave physical suffering and disability may be, they are of much less importance than the evils resulting from moral and intellectual degradation. No vocation in life has so close a connection with the moral and intellectual conditions as the calling of the medical citizen. He finds the zone of moral and intellectual destitution even more extensive than do either the clergy or courts of justice. He comes in contact with this form of destitution in every grade of society from the haunts of squalid misery all the way up to those "clothed in purple and fine linen" and dwelling in the mansions of the rich and aristocratic.

The ethical obligations of the medical citizen call for the use of his technical knowledge and experience to help individuals, society and the state to elevate moral and intellectual conditions, and, on the other hand, help to stamp out any vices and customs that are detrimental to these. The abortionist, the most cowardly and vilest of all murderers, should have no mercy shown him. He is a degenerate medical parasite and should be sternly exterminated. The physician who treats a young man for venereal disease without making any reference to the moral destitution associated with impurity fails to discharge his ethical obligations as a medical citizen. If the patient is not warned of the danger and degradation associated with an immoral life, he will, in all probability, remain the victim of an overpowering passion. Impurity is not only demoralizing to the individual and debasing to society, but injurious to the state, as it begets a degenerate population. The medical citizen, on account of his technical knowledge, is under greater obligation than even any other citizen to aid in the preservation of purity of life. He must invariably follow the example of the "Great Physician," who touched impurity with matchless compassion, but told the sinner to "Sin no more." None know better than the physician the number of young people wrecked through ignorance about the sexual functions. These deluded creatures become the prey of the avaricious charlatans. Every boy and girl, on arriving at puberty, should be taught the facts pertaining to the functions of the generative system. It is ignorance and not knowledge that is to be dreaded in this matter, and it is the medical citizen who should impart this knowledge in our schools.

Intimately associated with the vice of impurity is the vice of intemperance. The latter, as the former, affects all grades of society. Here again the medical citizen's knowledge places him

under special ethical obligations. Simply to procure the relief of his patient from the effects of a drunken "bout" is only to do one part of what is required of the physician. The other, and far more important, part of his work is to give his patient such advice as may enable him to acquire a sufficiently strong will to overcome his craving appetite for intoxicating beverages.

The somewhat unique duties of the medical citizen place him under ethical obligations regarding matters pertaining to religion, education and legislation. His technical knowledge has nothing to do with mere creed distinctions, but it has to do with the spiritual welfare of his patients. Knowing the character of the illness the physician is under ethical obligations to see that his patient receives all the consolation and help religion can render. Who of us have not suffered from "pangs of conscience" when patients have died suddenly, without, so far as we knew, any thought about the needs of the souls that passed on into eternity? Are we strictly ethical when we concentrate all our attention on trying to save the body, without giving any consideration to the needs of the immortal soul? Each reader must satisfy his own conscience on this matter.

On many questions pertaining to education the advice of the medical citizen may be of great value. He, rather than the teacher, is the better fitted to judge the amount and character of work the child should have. He should note any complaint parents make in regard to the progress their children are making at school. How often teachers are blamed unjustly for the backwardness of children, when a physical examination by the physician would quickly reveal the cause. Thousands of children have had their education impaired through inattention on the part of the family physician. He should see if any child in the family is deaf, has impaired sight, or is a mouth breather, and insist on any such being properly treated. Many children are rendered indolent, irritable and incorrigible through these physical defects. Very pronounced mental and moral changes for the better may follow the removal of adenoids and enlarged tonsils. The physician may confer a great boon on both child and parent by indicating the calling the former is best adapted for.

The ethical obligations of the medical citizen as to legislation are based on the character of his knowledge. He is the special custodian of much information essential to the needs of the state. The medical inspection of immigrants, the care of the inmates in such public institutions as asylums, sanatoria, hospitals, etc., would be most imperfect without the aid of the medical citizen.

In passing from this phase of the subject it can be truly stated that the ethical obligations of the medical citizen are many and onerous, but the following quotation contains enough inspiration to lighten the burden: "The pure joy of achievement, the calm pleasure that comes with the consciousness of a worthy task nobly done, is—if not reward enough for any man—certainly reward enough for any member of that profession whose proudest distinction is that it puts the welfare of all so high above individual profit."

DEPORTMENT.

Medical history shows that the medical citizen is just as much influenced by his environments as those in other callings are. Lingering traces may even yet be seen of the customs and prejudices of bygone days. The coachman, dressed in livery, is a relic of a custom prevalent in semi-barbaric or non-Christian ages, when people were divided into two classes, masters and slaves, or masters and servants. The influence of Christianity in teaching the brotherhood of man is bringing into disrepute all customs that place the badge of servitude on a fellow-being. Many ladies now, on going abroad with a nurse, have her dresses made by their own dressmaker, so that, outside the privacy of the bedroom, she is treated as one of the party of tourists. To-day, most physicians prefer to drive themselves. If they require the services of a groom, they allow him to dress as he pleases. In some cases without the livery, it might be hard for the public to know "who was who."

A century or two ago the physician's dress was quite an important factor in his make-up. In a picture, "The First Meeting of the Medical Society of London, 1773," the well-powdered wig, silk coat, knee breeches, large ruffles, etc., make quite an æsthetic costume. The hurry, flurry and worry of life in the latter half of the past century, and so far in this one, seem to have taken away from the medical citizen much of the æsthetic taste in dress, and of the courtly deportment so very noticeable a century ago. The modern physician has adopted the dress and mannerisms of the business man. In politics he is just as partisan as his fellows, and in municipal and educational affairs, he has as many "pet hobbies" as other men have. While the medical citizen holds his views as strongly as any others do, yet he learns from his daily contact with the sick and disabled to be somewhat more tolerant toward conflicting opinions than laymen are. To sum up the most characteristic traits in his deportment, it can be said that he is self-reliant, industrious, sympathetic and sociable.

HYPERTHYROIDISM.*

By Dr. Brefney O'Reilly, Toronto.

Mr. Chairman and Gentlemen:—

The case which I have the honor to present to you this evening is one representative of a type which I think, has, up to the present, hardly received the attention which is its due. Its frequent occurrence and the difficulties encountered in both diagnosis and treatment are my excuses for bringing it to your notice, in the hope that, in the discussion, light may be thrown on the subject by some of the senior members present.

Gertrude B., age 20, unmarried, factory worker; patient in St. Michael's Hospital.

Complaint.—Feeling of dizziness, "nervousness," weakness, palpitation of the heart and vertical cephalalgia. Duration of present attack about a month.

Family History.—Father dead, age 40—consumption. Mother living and well, age 55. Three brothers, living and well. Two sisters living: one has lung trouble. Father had two brothers and one sister who died of T. B. Mother had one sister who died of T. B.

Personal History.—Patient was born in Canada, lived on a farm and worked hard. As a child, had measles, whooping-cough, chicken pox and scarlet fever. When 13, had rheumatism and was in bed for two months (only in the ankles, had smothering spells, and says she had "rheumatism of the heart"). At 15, had pleurisy. Patient says her sanitary surroundings have always been good. She went to school till she was 14. Lately, her occupation has not been difficult. It consists in packing yeast; works 9 hours a day, all noon hour, and takes no lunch.

Present.—In June of 1905, while raking up the yard one hot, sunny day, patient became faint and sick, and had to remain in bed for a few days. Some days later, when walking along the railway track, she stepped aside to avoid a passing train, and, missing her footing, rolled down a 20-foot embankment. She was unconscious for a short time, but later managed to reach her home; felt poorly for a few days, but otherwise experienced no ill effects.

On July 2, 1905, had her first convulsive attack, after sitting in the sun all afternoon at the races. That evening, while at the hotel, she fell forward on her face, but did not lose conscious-

* Presented at the February meeting of the Medical Section of the Academy of Medicine, Toronto.

ness. She was in bed four weeks after this seizure, during which time she had several similar attacks. In September, took to bed again; this time her convulsions were worse and venesection was done.

In all these seizures she would have spells of dizziness and a feeling of weakness; the heart would beat very rapidly; she would stiffen out and be unable to speak. The patient never became unconscious, and could always tell when an attack was coming on.

In the attack, after the stiff feeling appeared, she would experience generalized tremors, flushing of the face, and a stiffening of the eyelids, and an aching spastic contraction of the wrists and fingers (somewhat resembling tetany, and not appearing in the feet).

After the seizure, would lie down. She never bit her tongue or passed urine. She says she frequently frothed at the mouth. Attacks would follow each other rapidly, and be accompanied by weeping. The whole seizure would last probably half an hour. Has also had frequent attacks of hiccough.

On December 15, 1905, was admitted to the T. G. H. While there she had several seizures. She also developed complete right-sided hemianesthesia; was insensible to painful sensations, to heat, cold and touch; conjunctiva not involved; also had an attack of severe pain in the left ear, and neuralgia in the left side of the face, and at this time first noted deafness. No cataleptic attacks.

On January 19, 1906, developed an attack of appendicitis. This became better, patient's nervous symptoms improved, and she was discharged from the T. G. H. on February 28th.

In July, 1906, entered the T. G. H.; was operated on for appendicitis on September 10, and was discharged from the hospital in October.

Patient felt well till about Christmas, 1907, when, one morning while at work, she noticed that her hands were trembling, her lips quivering, and later becoming stiff. Her heart beat rapidly, and she had to lie down for about an hour. After resting she felt better, but had a severe headache. She went home for two weeks, recovered, and then returned to work. Shortly afterwards she had another attack, which was very severe, and similar to those above described. She then developed influenza and was in bed for some days. A week ago started back to work, and had the same sort of seizures—hands shook, body would ache and the face would flush. There was spastic contraction of the fingers, lasting for about 15 minutes; the eyelids seemed also to become stiff.

Patient was admitted to St. Michael's Hospital, February 3, 1908.

Present Condition.—Patient appears well nourished; lies comfortably in bed in any position, and answers questions readily. The eyes are bright and clear. There is marked flushing on the right side of the face and a slight pallor around the nose and mouth. The mucous membranes are good in color.

A. CIRCULATORY SYSTEM—INSPECTION.—Paroxysmal flushing of the face, especially in the right side; marked throbbing of carotids, and a suggestion of venous and capillary pulsations. A distinct, irregularly distributed, bright red, mottled, erythematous rash, closely resembling measles, may frequently be seen on uncovering the thorax and abdomen. This disappears completely in from two to three minutes. Tache cerebrale is marked, and no patches of cutaneous edema have been noticed. Hands are slightly cyanotic, cold, clammy, and palms perspire readily.

Palpitation.—Pulse irregular as to time, varies from 54—140, regular in rhythm, force of successive beats of apparently moderate tension, but has shown 150 in Hg. pressure; artery wall not palpable, volume rather small. Is marked throbbing of the abdominal aorta. Apex beat normal in position and in force. Sphygmographic tracing made and attached to history.

Percussion.—No alteration in cardiac outlines.

Auscultation.—No bruits over præcordia.

Subjective Sensations.—Flushing of face, throbbing of abdominal aorta, palpitation, vertigo, and occasionally slight dyspnea.

Had an attack of epistaxis two years ago, and several times "spit up" blood (without emesis, nausea or cough) of bright color. Complains of attacks of generalized flushing, followed by sweating at times. No tinnitus aurium.

Blood.—R.B.C. 4,192,000; W.B.C. 8,800, H.C. 75 per cent.; differential count, P.M.N.L. 50 per cent., S.M.N. 16 per cent., L.M.N. & T. 2 per cent., E. 2 per cent.

B. RESPIRATORY—OBJECTIVE.—Inspection reveals nothing abnormal, no diminution of chest expansion. Palpation, percussion and auscultation nil. Subjective sensations—Attacks of dyspnea, with rapid respirations, running up to 40 per minute, noticed when excited.

C. GASTRO-INTESTINAL.—Nothing abnormal; no attacks of diarrhea or emesis; no tremor of the tongue; no emaciation.

D. GENITO-URINARY.—Urine normal; no albumen or sugar. Lately missed occasional menstrual periods. She began to men-

struate at 11. Periods have always been regular but sometimes painful and accompanied by emesis. Patient says that just before the onset she has pains in the right lower part of the abdomen. Has had only four periods since last May. Thinks the first delay was due to catching cold.

E. NERVOUS:—(1) Fine involuntary tremor of fingers. (2) Generalized muscular tremors, especially hands and angles of the mouth, even when alone, she says. (3) Muscular, touch, pain and thermal sensations normal at present. (4) Subjective sensations—Nervousness, irritability, depression, fits of crying and slight insomnia. (5) Cranial nerves.

> I., II., III., IV., V., VI., VII., IX., XI., XII., normal. VIII., R. normal; L., apparently nerve deafness. X., tachycardia.

(6) Reflexes—Normal beyond slight exaggeration of knee jerks. Babinski's sign and ankle clonus absent. (7) No globus hystericus, clavus, alteration in speech or mental deterioration. (8) No attacks of true tetany. The electrical excitability not tested.

F. CUTANEOUS.—Small pigmented patch 1-3x1-2 inch area below ramus of R. lower jaw. No leucoderma, pruritus or patches of edema; marked dermographia. See description of erythema under A section.

G. GLANDULAR.—No lymphatic enlargement; liver and spleen normal; thyroid not palpable. Slight muffling of percussion note over manubrium sterni. (Note possibility of persistance of the thymus gland or an abnormally placed thyroid.)

H. SPECIAL ORGANS.—I. *Eye.*—No abnormalities of optic nerve or external muscles of globe. R. eyelid at times shows slight ptosis. Graefe's, Stellwag's, Joffray's and Moehbiv's signs absent. Slight prominence of both eyeballs. Pupils equal and moderately contracted. No hippus. No nystagmus. Vision good at present. When 13, had difficulty in reading; wore glasses for two years, with good results. No edema of the eyelids. Complains of stiffening of the lids during attacks.

II. *Ear.*—Absolute deafness, apparently in L. ear, two years' standing. No definite history of otitis. Said to have had an attack of neuralgia when in T. G. H. Otherwise normal.

From the facts elicited in the history which I have just read, we recognize, on the one hand, a decided neurotic tendency, with conspicuous physical tendencies, a curious symptom-complex, embracing both neurasthenic and hysterical manifestations, as evidenced especially in the vasomotor disturbances, hemi-

anesthesia and the convulsive seizures. On the other, we find tachycardia, a fine tremor, suggestive of proptosis and some of the vascular phenomena peculiar to exophthalmic goitre, minus in this case, the thyroid enlargement, or if such be present it is either not of sufficient size to be distinctly palpable, or, as is occasionally found, an abnormally placed gland in the anterior mediastinum. Thus we find in the case under observation, one which is apparently on the border line between a simple neurosis and Graves' disease, and one to which the constitutional neuropathic or nervous theory can, I think, be fairly applied.

One is led by the study of cases such as these to be very chary in making a positive diagnosis, and to place more faith in the entire course of the disease than any one set of the symptoms, so many of which are common to both the diseases under discussion. In some cases one finds one or more of the cardinal signs of Graves' disease wanting, but there may be sufficient of the minor manifestations present to warrant a positive diagnosis. On the other side, cases are recorded showing certain of the positive signs of exophthalmic goitre, in which the neuro-psychical side is wanting, and the secretory and trophic anomalies permanently absent.

The literature at our disposal is meagre and vacillating, theories being advanced by one, only to be rejected by another. Perhaps in the term "hyperthyroidism" we find a partial solution of the problem. We all agree that exophthalmic goitre is accompanied by, and is probably due to, excessive thyroid secretion. Can we say the same of certain neuroses, taking the case presented to you to-night as an example?

52 College Street.

A CASE OF DEMENTIA PRAECOX, WITH CERTAIN UNUSUAL FEATURES.

By John Gerald FitzGerald,

Clinical Director; Pathologist, Toronto Asylum; Demonstrator in Psychiatry, University of Toronto.

Some of the difficulties encountered in making careful clinical observations in insane patients are well exemplified by the report of the following case. Often where it is most essential that the temperature, pulse, blood pressure and respiration be recorded at regular intervals the patient will resist every attempt made to secure the information, frequently causing sad gaps in the clinical history—a second point here exemplified.

A. C. M., No. 9889—was admitted to Toronto Asylum, April 6th, 1907. At this time he was 19 years of age.

Family History.—Father died at 80 years of age, cause not known. Mother living, age 50, mentally defective. No consanguinity between the parents. There were eleven children in the family, patient being the ninth. Six brothers living and well; all are day laborers. Five children died in infancy. We were unable to ascertain any history of other neuroses or psychoses in the family.

Personal History.—The patient was born in Belfast, Ireland, nineteen years ago. He attended school for a short time when a child. He was said to have been reticent and seclusive, and it was generally recognized that he was of a low type mentally. He had practically no outside interests, worked as a day laborer and never made any effort to better his condition. Patient came to Canada in April, 1905. On arriving in Toronto he obtained work as a laborer. His alcoholic history was slight, occasionally took a drink of whiskey. He also used tobacco in moderation. Sexual history was negative. He had no serious illness and no history of trauma was noted in his clinical record.

Present Illness.—The first incident noted by the patient's relatives in the early period of the psychosis was an outbreak of impulsive violence towards his mother; he was also abusive and threatening; all these things were foreign to the patient when well. During the next three months he worked irregularly, and there was considerable insomnia at times. In April he complained to his relatives that people had been running after him and were trying to harm him. At this time also he was vaguely grandiose and had active auditory and visual (?) hallucinations. His attention was weak, he became markedly apathetic and indifferent and was sent to the Asylum.

Mental Status on Admission—Patient's reaction indicated clearly that he was of a very low type mentally. His preliminary

knowledge and grasp of affairs in general was very slight. He answered questions promptly as a rule, but showed considerable emotional dulling, being very apathetic. There was no clouding of consciousness, and he was able to give a fairly good account of himself. He had active, auditory, fallacious sense perceptions, constantly heard people talking about him and making insulting remarks. Some vague persecutory delusions were elicited; they were fragmentary, varying in content, and quite unsystematized. Spontaneous attention was weak; voluntary attention was often difficult to obtain and could not be directed. Memory showed no gross impairment. He showed many mannerisms; at times also gave evidences of suggestibility, the symptom of echopraxia (the imitation on the part of the patient of any movement observed) being noted. Patient would often laugh in a silly way, showed no insight into his condition, and his judgment and critique were defective. The physical examination showed many stigmata of degeneration, a symmetrical head, face and ears being present. The palate was high and narrow, with a medium torus. Pupils were very large, about 6 m.m. in diameter, and irregular in outline. Heart was rapid and slightly irregular at times. The lungs were negative. Tendon reflexes were active. Fine tremors of the tongue and face were observed. His weight was one hundred and thirty-four pounds, which was about twenty-five pounds below normal.

From the time of his admission until early in June his condition remained much the same. His condition then became worse, he failed in weight, showed marked excitement, motor restlessness, reacted strongly to delusions of persecution which were present. About this time he broke a pane of glass and cut his wrist. He was destructive and was put in the prolonged bath. He continued to grow worse, refused nourishment, lost in weight and was greatly excited. The baths had only a slight sedative effect, and at times it was necessary to resort to other sedatives, because all hydro-therapeutic measures were found inadequate. On July 1st he was unusually restless and destructive, was in the prolonged bath at 98 degrees for twenty minutes, taken out and sent to bed. About half-past three in the afternoon his excitement was very marked and he had a general epileptiform convulsion; he showed signs of exhaustion. About four o'clock it was possible to take his temperature, and it was found to be 109.5 T. by rectum. Owing to the temperature being so high, two thermometers were used and more than one observation was made, but all confirmed the original one. Patient died at five o'clock that same afternoon.

It had been impossible to either take the patient's temperature

or observe his pulse for some time, so that we were completely in the dark as to how long the patient had been running a temperature. At the time of death there was no swelling of the body, no evidence of any local infection, and it was impossible to account for the great rise in temperature.

Permission for autopsy was not secured until twenty-two hours after death. By this time the body showed a most interesting condition—the neck and front and back of the chest were enormously distended, a crackling noise was elicited when the tissues were incised. The swollen parts of the body were of a bluish-black color. The abdomen was full and tense, and the intestines were filled with gas. Air escaped from both pleural cavities and from the pericardial cavity. The pericardium was red and injected, and grayish, fibrinous deposit covered the heart; there was a considerable quantity of blood-stained fluid in the pericardial cavity. The heart contained considerable quantity of blood mixed with air. The heart weighed 340 grams. The cavities of the right side of the heart showed some dilation; the mitral curtains were injected. The first part of the aorta was intensely injected, showed no atheroma, coronaries patent. Wall of the right heart was only about 3 or 4 c.m. in thickness. The heart muscle was soft and flabby.

The lungs were greatly congested, crepitant and on section a frothy red fluid exuded. Other organs showed congestion. The intestines were distended with gas. Otherwise the autopsy findings were negative. The weight of the brain was only 1170 grams.

It is greatly to be regretted that, owing to lack of bacteriologic material at the time, no cultures were taken. However, from the gross pathologic picture it seems highly probable that the organism present was the bacillus ærogenes capsulatus (Bacillus Welchii).

The possibility of the patient having infected himself with the organism at the time of his suicidal attempt would have to be kept in mind; and the presence of an acute endocarditis and pericarditis might have been associated with the presence of the organism in the blood stream. No local manifestation of emphysema was seen, however, until after the death of the patient, and this is a matter that has puzzled the writer. It is well known that the bacillus may wander into the circulation from the intestine just before or immediately after death (Muir and Ritchie), and such may have been the case with our patient.

I feel that no satisfactory conclusion can be drawn or any inferences safely made because of the gaps aforementioned. The case is reported simply recording the known facts.

Selected Articles.

THE PNEUMOCOCCUS INFECTIONS.*

By William Osler, M.D., F.R.S.,
Regius Professor of Medicine, Oxford University.

The pneumococcus infections alone among the maladies of modern life have increased in frequency and severity. The mortality from diphtheria has fallen in twenty-five years more than 75 per cent.; the death-rate from typhoid fever has fallen still more, and that of tuberculosis is steadily declining. Making due allowance for unavoidable errors in the figures, there can be no question of the enormous increase in the death-rate from the most important of the pneumococcus infections, *i.e.*, pneumonia, particularly in the United States. In some cities the mortality has increased fourfold. In this country, too, the death-rate has steadily increased during the last decennium, but not in the same startling ratio as in the large cities of the United States. In Chicago, for example, the mortality from pneumonia has reached as high as 20 per 10,000 of inhabitants, one-eighth of all the deaths being due to it—46 per cent. more than from all other contagious diseases combined. As the Registrar-General's report shows, it is in the cities that the great increase has taken place, and there are evidently conditions in our modern life favoring the spread of the infection. What these are is not easy to say, but they are conditions unassociated with drainage and water supply. While segregation of population has increased, the concentration has lessened, and household sanitation has everywhere improved. It is not easy to settle upon any one outside factor responsible for this remarkable change. It is a question worthy of the most careful study—all the more so because of its obscurity. In cities the element of frequent contact comes into play, in the school, in the street, in the tram-cars, etc. and in modern life this may be an important factor in the promotion of the spread of this special type of infection. Certain diseases, the plague, for example, have great waves of incidence, associated possibly with an increased virulence of the germ, and we may be upon the crest of a pneumococcic wave of such length that we lack the data for its measurement.

We are here face to face with a most serious situation in preventive medicine, one quite as deserving of organized study as

* Delivered before the Medical Society of London.

cancer or tuberculosis. The work of the past ten years has put us in a position to attack the problems with renewed vigor. There are still many lacunæ in our knowledge of the life-history of the pneumococcus. As is the case with so many germs, the more carefully they are studied the greater are found to be the variations, and we have learnt to recognize varieties in the species pneumococcus, which differ not only in their morphological characters but in degrees of virulence. The relation of these forms to one another and the relation of the whole group to the streptococci is being studied in many places. The work of the New York Pneumonia Commission has done much to clear up the relation of the typical and atypical forms, but it is a question of great difficulty which may take years for its solution.

One of the most interesting of the many transformations which bacteriology has made in clinical medicine has been the extension of our knowledge of the diseases caused by the pneumococcus. Inflammation of the lungs is only one, though the chief, among a score or more of important and serious diseases due to it. Unless it be the geno-coccus, no organism has risen so rapidly in the scale, and it may be called the David of bacteria, killing its tens of thousands to the thousands of any other.

Pneumococcic septicaemia is met with (1) in pneumonia. With the new methods of blood culture we have found that in a considerable proportion of all cases the blood swarms with the organisms. The toxæmia and many of the complications may be associated with this bacteriæmia, which, curiously enough, does not always disappear with the crisis; secondly, though rarely as a fatal septicæmia without recognizable local disease; thirdly, in the endocarditis and other local pneumococcic lesions; and, lastly, as a terminal infection in various chronic maladies. One of the first cases of this sort to come under my notice was a child with an acute tuberculous process at one apex. A sudden exacerbation of the fever with general œdema and coma, gave a picture somewhat suggestive of a tuberculous meningitis, but the autopsy showed an intense pneumococcal septicæmia.

Naturally affections of the respiratory passages take the first place in the group. As I shall state later, a majority of us carry about a potential infection. Catarrhal and suppurative affections of the upper air-passages are not infrequently caused by pneumococci. There has recently been described a remarkable epidemic of ophthalmia with catarrhal symptoms, caused by a closely allied organism, and the great importance of infection of the accessory sinuses has been dwelt upon by St. Clair Thomson and others. The meningitis arises, in some cases at least, from

this source. A bronchitis of singular chronicity may be associated with an infection of the tubes following a pneumonia. A girl, æt. 14 years, had pneumonia at the age of 10, a very severe and obstinate attack. For four years she had cough of a peculiarly irritating character, two or three spells in the day, in which she brought up a small quantity of viscid sputum. The history, of course, suggested a bronchiectasis. The physical examination was negative, save for the presence of a few piping rales at the bases of the lungs. The sputum in smears was as if taken from pure culture of most typical pneumococci.

Next to the tubercle bacillus, the pneumococcus plays the most important part in inflammations of the pleura. Acute fibrinous pleurisy and empyema are the chief forms, both the result of direct infection from the lung, either from a frank pneumonia or quite as often from small undiscoverable patches. The great increase in the frequency of empyema of late years has been noticed by some observers. In some of the large metropolitan hospitals, for example at Guy's, as described by Hale White, the cases have doubled in number in ten years. This has been attributed to the influence of influenza, but it has been just as marked in regions in which this disease has not been very prevalent. The special features of the pneumo-coccal empyema cannot here be discussed, but of all serious infections by this group of organisms, it is one with the lowest mortality when taken in hand early and properly treated.

The great respiratory infection, the most formidable acute disease of modern times, well called, in Bunyan's phrase, the "Captain of the Men of Death" is inflammation of the lungs, from the association with which the pneumococcus has had its most popular name. A few points only may be indicated for consideration: the causes of the undoubted increase of the disease; does a septicæmia precede the development of the local lesion as the investigations of Rosenow would suggest? the question of an increase in case mortality, the question of frequency and variety of clinically atypical forms; and lastly, how far are we in this generation treating the disease better than our fathers? I say our fathers, as I have no doubt about the lethal character of the treatment of our great-grandfathers.

Of cardiac affections due to the pneumococcus, the endocarditis, by far the most serious, is either associated with pneumonia or is met with as an independent disease; at least, we cannot always find a primary source. With anatomical features of its own, it is perhaps more often dextral than the endocardial lesion of any other organism, and in a high degree it shares with the

streptococcus forms the property of malignancy. Very few cases recover, and very many are overlooked clinically, as the cardiac features of the case may be completely masked in a profound toxæmia.

Peritonitis is the most fatal of the abdominal infections of this group. Much more common than statistics indicate, it has several peculiarities—a high mortality, a high incidence in childhood, a relative great frequency among female children, a tendency to localization and a stormy clinical course resembling that of the acute perforative peritonitis.

Pneumococcic meningitis, with many features of interest, comes third in order of frequency among the acute inflammations of the cerebro-spinal meninges. So far as I know, it is one of the few infections of this group, besides pneumonia, that occurs in epidemic form, and in very much the same way, in small house outbreaks of from three to five cases. As a complication of pneumonia it is not uncommon, occurring sometimes with the endocarditis. Isolated instances are met with in which no other lesion is found, and it is quite possible that the infection, as in the epidemic cerebro-spinal fever, may come through the nose or the accessory sinuses. In contrast to this latter form, it seems to be invariably fatal, at least that has been my experience.

Besides these chief affections of the respiratory, circulatory, gastro-intestinal, and cerebro-spinal systems; there is a large group of minor maladies due to the pneumococcus—abscesses, subcutaneous, muscular, periosteal, arthritic and certain cases of otitis media; some of these are of small account, others are the source of widespread and even fatal infection.

Source of Infection.—It has been known for many years that pneumococci exist in the mouth and throat of a certain number of healthy people. Indeed, Sternburg made his original observations on the production of mouse septicæmia by the injection of human saliva. The recent studies by the New York Pneumonia Commission have added greatly to our knowledge of this subject. Park and Williams examined 200 cases, chiefly normal individuals, and found pneumococci present in a large proportion of all, whether resident in the city or in the country. In fifty out of fifty-three cases of lobar pneumonia examined the organisms were present, and in the majority, of the typical virulent variety. It is interesting to know that a larger number of atypical strains were obtained from healthy persons than from patients with pneumonia. Longcope and Fox, of the same Commission, had 83 per cent. of positive results in forty-two individuals. One of the most interesting points in their observations

was the increase of the percentage of typical pneumococci in the mouth secretions during the months of December and January. In several instances the study of the saliva of the same individual between the months of November and April showed a remarkable change. The organism obtained in December was very virulent and killed mice, while in April the organisms were less virulent, so that they would produce no effect whatever. On the other hand, they found that some persons always had virulent pneumococci in their mouths. Buerger, at Mount Sinai Hospital, New York, reported to the same committee a study of seventy-eight persons, and the percentage of positive results was about fifty. The pneumococcus may appear suddenly in a normal mouth. The period of persistence was variable, but in some persons it was found with great regularity. Buerger made a study of the communicability of the organism from one person to another—so far as I know, the first attempt of the kind that has been made. The evidence was sought by demonstrating the absence of pneumococcus in the mouths of certain cases, and by studying the possible sources of subsequent infection. For this study two male wards, one containing twenty-four and the other twelve beds, and a medical children's ward were selected. The number of positive cases present in the small ward at any given time was rapidly ascertained. It was repeatedly found that normal individuals—that is, those in whose mouths the pneumococcus was repeatedly found to be absent—acquired the organism by association with cases of pneumonia or with positive, normal persons. To take an example, the patient in Bed 1 was examined on December 4th and 10th and found negative. On that day to the next bed a patient with lobar pneumonia was admitted, in whose mouth virulent organisms were repeatedly demonstrated. Five days later, and on a number of days subsequent, the pneumococci were detected in the mouth of the adjoining patient.

Buerger brings forward evidence to show that handkerchiefs and "positive normal" cases may be regarded as means of transportation of the pneumococcus from one person to another. A point of some moment brought out in a paper by him in the same series was the appearance and existence in two cases of pneumococci in the mouths, coincident with the development and course of ordinary colds.

It has long been known that the viability of pneumococcus was not very great, though it depends largely upon how the sputum is treated. In a study made of the whole question for the New York Commission, Wood found that in most sputum kept in a dark room the average life of the pneumococcus was eleven days,

but if exposed to direct sunlight, and if it dries and is desiccated, they rapidly die. He found that persons suffering from pneumococcus infections, in coughing, sneezing, expectorating, or talking, expelled from the mouth particles of sputum or saliva which contained pneumococci and which might remain suspended in the air for a number of hours if the ventilation of a room was not good. They become harmless in a very short time, one and a half hours being the limit.

The upshot of this, and of other work, is to show the exceedingly wide prevalence of pneumococcus, and that the great majority of healthy individuals, particularly in the winter months, harbor pneumococci in the secretion of their mouths and throats. The way by which the pneumococcus reaches the lungs has not yet been fully determined. The common explanation is that when the resistance of an individual is weakened from any cause, the pneumococci present or inhaled reach the lungs and excite inflammation. In view of the recent researches on the modes of transmission of tubercle bacilli by Grober and others, the infection may pass through the lymphatics, and we know also that the plague bacillus reaches the lung trouble through the lymphatics of the neck and gives rise to a pneumonia. On the other hand, the work of Rosenow suggests the possibility of a hæmatogenous infection, as there may be a bacteriæmia before a local lesion in the lungs is detected. Altogether there is much work to be done yet on the paths of infection in pneumonia.

The two important facts which have been brought out are the widespread prevalence of the pneumococci in the mouths of apparently healthy individuals, and the extraordinary variability which the germs show in virulence. We know, too, that there are great variations in resistance of the different races of men to the pneumococci. The negro in my wards at the Johns Hopkins Hospital showed a death-rate from the disease nearly 50 per cent. above the white, and throughout the Southern States of America this somewhat remarkable susceptibility is manifest. A clinical experiment on a very large scale has been going on for several years in South Africa. Dr. Porter's study of the disease of the Chinese and Kaffirs in the Rand mines shows that, while the former have a susceptibility to pneumonia quite equal to that of the negroes in America, the Chinese show a resistance far above that of the whites, and there have been in South Africa epidemics of severe pneumococcus infection characterized by catarrh of the upper air-passages and gastro-intestinal disturbances, while pneumonic lesions were rare.

Wadsworth, in a series of most interesting experiments, pro-

duced for the first time, I believe, pneumonia in rabbits subjected to a certain degree of immunization. Then we know that individuals at different ages present different degrees of susceptibility. The newborn and the infant are resistant, the adult and the middle-aged are susceptible, and debilitating influences, as exposure, alcoholic habits, render persons susceptible. It may be a battle between the degree of resistance and the grade of virulence of the organism harbored. There are facts which indicate that the atypical strains produce lung lesions which differ in degree, at any rate, from the true lobar pneumonia. A score or more of questions of the most intense interest and of the greatest practical importance are raised by these recent studies upon this most formidable of all infections. One point of the greatest practical importance remains, viz.: Is it possible to remove the sources of danger from the secretions of so many healthy individuals? A complete disinfection of the mouth is impossible. A very careful study of the effect of different solutions on the vitality of the pneumococci in the mouth has been made by Wadsworth, who found that of all mouth disinfectants that which has alcohol as a basis is the most effective. He recommends an alcoholic solution of bicarbonate of soda and sodium chloride with the addition of glycerine, made as strong as the patient can stand. It is to be remembered that the pneumococci not only live in the saliva and the secretions of the mouth, but in the throat and in the crypts of the tonsils—regions which it is still more difficult to reach.—*The Clinical Journal.*

OPSONINS AND THE VALUE OF OPSONIC MEASUREMENTS IN GUIDING THE TREATMENT OF CHRONIC INFECTIONS BY BACTERIAL VACCINES.

By Charles Frederick Bolduan, M.D., New York,
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The early work of Nuttall and others on the bactericidal action of normal serum, and Pfeiffer's demonstration of the bacteriolysis of cholera and typhoid bacilli by immune sera in the absence of cells, formed the chief basis on which rested the *humoral theory*, which attributed the protection in such cases to the destructive action of the serum on the microbes. It was found, however, that cases of protection resulting from the use of immune serum occurred where no such bacteriolytic action could be demonstrated; infection with plague or streptococcus may be mentioned as examples. It is now pretty generally accepted that immunity in these cases is due largely to the *phagocytic* action of the leucocytes. As far back as 1858 Haeckel had observed that particles of indigo injected into the veins of certain molluses could shortly afterward be found in the blood cells of the animal. However, the significance of this and other observations was not appreciated until Metchnikoff[1] in 1883 called attention to their bearing on infection and immunity. The outcome of his investigations was the establishment of the well-known doctrine of *phagocytosis*, the principle of which is that the wandering cells of the animal organism, the leucocytes, possess the property of taking up, rendering inert, and digesting micro-organisms which they may encounter in the tissues. Metchnikoff believes that susceptibility to or immunity from infection is essentially a matter between the invading bacteria on the one hand and the leucocytes on the other. He realizes that the serum constituents play an important role, but this role consists in their *stimulating the leucocyte* to take up the bacteria.

Thus, if a highly virulent organism is injected into a susceptible animal, the leucocytes appear to be repelled, and to be unable to deal with the microbe, which multiplies and causes the death of the animal. If, however, the suitable immune serum is injected into the animal before inoculation, the phagocytes attack and devour the invading micro-organisms. Admitting that the phagocyte plays an important part in certain infections, the question must still be considered whether the immune serum has

acted on the injected microbes or on the phagocytes. Metchnikoff, we have seen, takes the latter view.

In 1903, A. E. Wright[2] called attention to certain substances present in serum which acted on bacteria and rendered them more easily taken up by the phagocytic cells. He called this substance *opsonin*, and showed that it is present in normal as well as immune sera. By means of absorption tests modelled after those of Ehrlich and Morgenroth, he showed that the opsonin has a specific affinity for the bacteria and none for the leucocytes. The opsonins for staphylococcus prepare only staphylococci for the leucocytes, those for tubercle bacilli only these bacteria, etc. As a result of his observations, Wright supposes that the phagocytes play only a passive role, which depends on the preliminary action of the opsonin.

Bacteriotropic substances.—Independently of Wright, though somewhat later, Neufeld and Rimpau[3], of Berlin, published experiments on the phagocytic effect of immune sera. They also found that in these sera there exists a substance which has no direct action on the phagocytes, but which can fix itself on the corresponding bacteria and so modify these that they are more readily devoured by the phagocytes. They call this constituent a "bacteriotropic substance." There is little doubt that this bacteriotropic substance and Wright's opsonin are identical. Certain differences in the effect of heat are probably to be explained by the differences in the quantities of these sensitizing substances in normal and immune sera.

Opsonins distinct antibodies.—It was natural to question whether these "opsonins" were really distinct from other antibodies, or whether they were perhaps identical with the immune body (or substance sensibilatrice). In a series of papers on this subject Hektoen[4] shows that the former is the case—opsonins are distinct substances. This is not only indicated by the results of absorption tests, but by the fact that, by immunization, a serum can in certain cases be obtained which is opsonic but not lytic, or, in other cases, one which is lytic but not opsonic. Similar experiments have differentiated opsonins from agglutinins.

Structure of opsonins.—Opsonins, like agglutinins and precipitins, appear to possess two groups, opsoniferous and haptophore. On heating an opsonic serum the former group is destroyed, but the haptophore group remains intact, as can be seen from suitable combining experiments. There is still considerable difference of opinion as to the degree of heat necessary to inactivate the opsonins. Once the opsoniferous group has been destroyed it is impossible to restore the opsonic action by the addi-

tion of a complementing substance. Hence the opsonins are to be regarded as receptors of the second order and similar in structure to the agglutins and precipitins.

The opsonic index.—In the study of these opsonins Wright developed the idea that they were highly important in combating a number of bacterial infections, such as staphylococcus and tubercle. His observations showed that inoculations of the corresponding bacteria produced marked changes in the opsonic contents of the infected individual, and that it was possible to estimate accurately the immunizing effect of such inoculations.

Technic.—Wright's technic of measuring the opsonic power is a slight modification of the Leishman[5] method, and is as follows: An emulsion of fresh human leucocytes is made by dropping twenty drops of blood from a finger prick in 20 cc. normal salt solution containing one per cent. sodium citrate. The mixture is centrifuged, the supernatant clear fluid removed, and the upper layers of the sedimented blood cells transferred by means of a fine pipette to 10 c.c. normal salt solution. After centrifuging this second mixture the supernatant fluid is pipetted off and the remaining suspension used for the opsonic tests. Such a "leucocyte emulsion," of course, contains an enormous number of red blood cells; the proportion of leucocytes, however, is greater than in the original blood.

One volume of this emulsion is mixed with one volume of the bacterial suspension to be tested and with one volume of the serum. This is best accomplished by means of a pipette whose end has been drawn out into a capillary tube several inches in length. With a mark made about three-quarters of an inch from the end it is easy to suck up one such volume of each of the fluids, allowing a small air bubble to intervene between each volume. All three are now expelled on a slide and thoroughly mixed by drawing back and forth into the pipette. The mixture is sucked into the pipette, the end sealed, and the whole put into the incubator at 37 degrees C. The identical test is made using a normal serum in place of the serum to be tested. Both tubes are allowed to incubate fifteen minutes and then examined by means of smear preparations on slides and spread and stained in the usual way. The degree of phagocytosis is then determined in each by counting a consecutive series of fifty lecocytes and finding the average number of bacteria ingested per leucocyte. This number for the serum to be tested is divided by the number obtained with the normal serum, and the result regarded as the *opsonic index* of the serum in question. The presence of a high opsonic index Wright regards as indicative of increased

resistance. He further states that the fluctuation of the opsonic index in normal healthy individuals is not more than from .8 to 1.2, and that an index below .8 is therefore almost diagnostic of the presence of an infection with the organism tested.

Application of the opsonic measurements.—At the present time Wright has correlated all his observations and built up a system of treating bacterial infections by means of active immunization controlled by opsonic measurements. The principles underlying his method may be briefly summarized as follows: In localized bacterial infections the infected body absorbs but small amounts of bacterial substances or antigens. In consequence of this, the amount of active immunity developed is but slight. Localized infections, therefore, tend to run a chronic course. The logical method of effecting a cure in these cases is to actively immunize the body with the invading organism. In a number of infections, notably those of staphylococcus, streptococcus, and tubercle, the degree of immunity is measured accurately by the opsonic index. Following an inoculation with the infecting bacteria (dead cultures in salt solution), there is first a drop in the opsonic index, the "negative phase," then, depending on the size of the dose and the reacting power of the individual, there comes a rise of the index, the "positive phase," or a continuation of the negative phase. The former is obtained with proper dosage; the latter with doses too large or too small. In estimating the size of the dose given, Wright counts the number of bacteria per cubic centimetre of emulsion injected. Thus in the case of localized staphylococcus infections the doses for adult humans range from 100 million to 500 million bacteria. In the case of streptococcus the doses are smaller, averaging about 50 to 100 million. The bacterial suspensions are heated to 60 degrees C. for twenty minutes, 0.5 per cent. carbolic acid is added, and tests are made to insure sterility. The time for inoculation is governed by the opsonic index. If the first inoculation has been properly gauged, there is a brief negative phase, followed by a positive phase of some days' duration. As this positive phase gradually drops, one gives another inoculation and watches the effect on the opsonic index. If the index drops markedly and rises but little, the dose has been too large. Or, if the negative phase is slight, and the positive phase slight and transitory, the dose has been too small. With proper dosage, the negative phases are small, and the opsonic index is kept fairly well above normal. Hand in hand with this goes on improvement in the clinical symptoms.

Wright and his pupils have published accounts of a large

number of cases successfully treated according to this method. The results are reported as especially good in cases of severe acne, multiple boils, lupus, tubercular glands, and bone tuberculosis.

In judging the value of Wright's method, we must bear clearly in mind that the essential feature of it is the *control by opsonic measurements;* treatment of bacterial infections by the inoculation of dead cultures has long been known.

The results obtained by most workers in this country fail to bear out Wright's claims for the method. Thus the author[6] finds that the variation in the opsonic indices of several normal persons is often considerable; that opsonic counts based on fifty leucocytes may occasionally vary by more than 50 per cent., and that it is therefore necessary to count from 150 to 200 leucocytes for each test; that duplicate, triplicate and more tests made of the same serum, at the same time and under identical conditions so far as one can tell, frequently give widely divergent results; that the opsonic index and the clinical course of the disease do not always run parallel. Cases may do very well and have the index remain low; other cases may do poorly with an increased opsonic index. It is to be noted, furthermore, that some of these variations in results are unavoidable, at least with the present technic.

The author feels that the treatment of chronic infections by means of bacterial vaccines should be on a more extensive scale. Even though the opsonic measurements fail to furnish a reliable guide in controlling this treatment, it may be found that the indications for this method can be arrived at empirically. There is no doubt that treatment by bacterial vaccines has proven very efficacious in a number of instances, and it only remains to determine the conditions in which it can be applied. Wright deserves great credit for again calling attention to the value of active immunization.—*International Journal of Surgery.*

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Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON AND BREFNEY O'REILLY.

Dysentery.

The literature upon dysentery has been singularly devoid of clinical articles, and this is particularly true of the English literature. There have been scattering articles upon isolated cases, but most of these have been by Japanese and Indian writers. This is natural, for in their respective countries this disease is of much greater importance than here. There have been a number of laboratory articles upon the various forms of dysentery bacilli and the pseudodysentery bacillus, but nothing which yet yields other than interesting laboratory results.

Vaillard and Dopter, in the *Annals of the Pasteur Institute*, publish an additional report upon the clinical use of antidysenteric serum. Their first report, covering 96 cases, was noted in the last article in *Progressive Medicine*. To this number they now add 243 cases, partly under their own care and partly from other hospitals in France and elsewhere.

Of 200 cases treated in France, 101 were moderately severe, 55 grave, 19 very serious, and 25 regarded as moribund. Of this number, 10 died, including also the cases dying at the moment when the serum was injected. This gives the very low mortality of 2 per cent. The value of the serum, however, is shown not only by the lessened mortality, but also by the relief afforded the patients and the rapidity with which they recover. The abdominal pain is relieved in a few hours, the tenesmus lessens, the blood and then the mucus disappears from the stools, which become fecal. Cases of moderate severity recover in from 24 to 48 hours. Grave cases, having from 100 to 200 passages per day, do not recover so quickly, lasting four or five, up to ten or fifteen days.—*Progressive Medicine.*

Mental Fatigue in Children.

In this rapid age of overstimulation and overwork, even the children do not escape, but show the effects in various ways, both mental and physical. Particularly in the spring, one observes the results of overwork and overfatigue. In an additional article the fact is pointed out that chronic fatigue and

malnutrition of the cells of the central nervous system are apt to result from the prolonged activity of the winter, accompanied, as it is, by less fresh air, less sunlight and less outdoor exercise than during other seasons. Normal fatigue is shown in the school child by a weakening of attention and perception, loss of self-control, lessened work-rate, and lengthened time of reaction to all stimulus. Usually more or less painful feelings accompany all effort. Within normal limits no harm results from this fatigue. If work is continued, nature asserts herself and the child falls asleep.

Signs of overfatigue are a drawn expression of the angles of the mouth, wandering eyes, headaches, disturbed sleep, perhaps night terrors, and morning irritability. There may be emaciation, and perhaps hysteria or chorea. There is no concentration of attention, and memory is capricious; there is painful nervous tension and a sense of ill-being. Older children may become horribly dreamy, introspective, self-depreciative, and develop a "New England conscience." In actual practice, less serious phases of mental overfatigue are the ones usually met with. In infants, fretfulness, restless sleep, indigestion—all may result from being too much entertained, especially if overstimulated just before being put to bed at night. The father and the grandparents are apt to be the worst offenders in such cases. In children of kindergarten age, bad temper, fretfulness, and frequently enuresis are often due to the excitement and overstrain of the kindergarten, especially if the children are the youngest in their classes. In older children, anemia, headaches, morning languor, subnormal temperature, lack of ambition, and failure to gain in weight are signs that should call the physician's attention to the amount of school work being done, as compared to the amount of sleep, of fresh air, of rest, and of wholesome food, with time to eat it. With any child, if the fatigue of the day's work is not recovered from during the night's repose, too much work is being attempted for that child.—*Progressive Medicine,* March, 1908.

Treatment of Asthmatic Attacks.

E. von der Velden, in the *Aerztliche Verein zu Marburg,* discusses the treatment of asthmatic attacks. The impression prevails that in the majority of such attacks a spasm of the bronchial musculature is an important factor. This applies to the purely bronchial cases and not to those due to weakness of the left ventricle, more rarely the right ventricle.

The treatment of an asthmatic attack is directed not so much

toward the respiratory mucous membrane as toward this bronchial spasm. The drugs available are all the narcotics and the narcotic members of the antipyretic group and certain specific, spasmolytic remedies. The chief representatives of these are lobelia and atropine. Dixon and Brodie have recently again shown that the latter drug paralyzes the broncho-constrictor fibers of the vagus; the former, the peripheral endings of the pulmonary branches of the vagus.

The double salts of theobromine, particularly diuretin, are known to dilate the vessels and to correct spastic conditions of the smooth musculature of the vessels such as are seen frequently in arteriosclerosis and in non-organic vascular neuroses. It seemed but rational to try diuretin also in the spastic conditions of the bronchial musculature, which presumably are responsible for most cases of bronchial asthma. The authors' experience with this remedy has been so encouraging that they recommend a more extensive trial, though they have been able to observe only five cases during the last ten months.

Diuretin was employed both in the nervous and catarrhal form of asthma. At the onset of the attack 15 grn. was given per mouth dissolved in water; if there was no relief in ten to fifteen minutes, a second dose was given. It was only rarely necessary to give 45 grn. The attacks were always considerably diminished in intensity and in the majority of cases aborted. The remedy never failed in the authors' hands, though a colleague, who tried it at their suggestion in one case, did not see any effect. The drug does not lose its action; in one instance it was given daily for four weeks with the same favorable result. From what they know of diuretin, it is not, however, unlikely that the effect will eventually be less pronounced. It is not advisable to give small doses during the day. Disagreeable after-effects on the circulation, kidneys, or central nervous system did not come under observation, but are not impossible if these organs are pathologically altered. Sometimes the stomach does not tolerate the drug; in these cases rectal administration must be resorted to. The action of diuretin will be investigated experimentally. It has not yet been decided whether the bronchial musculature, their peripheral, nervous apparatus, or the vessels are affected, but from the authors' knowledge, the latter seem least likely to be involved.—*Muench. med. Woch.*, April 2, 1907.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED. FENTON AND HELEN MACMURCHY.

Saving the Perinæum.

We are indebted to Dr. McCabe, of Strathroy, the able Examiner in Obstetrics for the Ontario Medical Council, for the following answer which he received at the last examination from one of the candidates: "The most important point to bear in mind is to have the head come through in its smallest diameter. Therefore, keep it fully flexed until the occiput comes out well from under the pubes, then permit extension, which, however, should not be too rapid. It must not remain flexed too long, or extend too soon, because in either case we would get a larger diameter, stretching the perinæum. In other words, we want forced flexion at first, and forced extension afterwards."

We quite agree with Dr. McCabe that this is an excellent answer, and not in accord with the teaching of most obstetricians.

It will be a matter of considerable interest to a large proportion of our readers to learn that Dr. J. Algernon Temple, of Toronto, was the first to point out the evils of premature and undue extension of the head in forceps delivery.

A little more than 22 years ago he sent a communication on this subject to the *British Medical Journal*. From that article we quote as follows: "For many years I have been greatly disappointed with the means recommended for the prevention of laceration of the perinæum, and after a more careful study of the subject I came to the conclusion that the only method of any value was to prevent extension of the head from occurring, and to compel it to be born in a state of forced flexion.

"In primiparæ the vulvar orifice is small and resisting, and the occiput in its descent does not reach the pubic arch before extension commences. As a result of this extension the long occipito-frontal diameter, which measures about four inches and a half, is obliged to traverse the perinæum, to be followed by the fronto-mental, which measures about three and a half inches, making in all part of a circle about 8 or 9 inches in length. This naturally stretches the perinæum and the vulvar orifice to their utmost capacity, and it is during this time that rupture is apt to occur.

"To guard against this over-distension in cases where I fear laceration, after the head has reached the floor of the pelvis, and just previously to extension, I have been in the habit of applying a short forceps, and then, by carrying the handles backwards, I

flex the chin on the chest, while at the same time gentle traction is made downwards and backwards. In this way I delivered the occiput first, keeping the chin close to the chest. This brings the cervico-bregmatic diameter, which is but three inches and a half, through the vaginal orifice. This plan saves the perinæum one inch or more of distension. I have had the best results from this practice and have taught it to my class of students for the past three years."

It is very unfortunate that only a limited number of the profession learn properly the very valuable lesson thus taught by Dr. Temple. The writer believes that this is the most important suggestion he ever received during his professional career. He has for many years taught his class not to bring the occiput forward while the head is emerging—that is, not to extend the head too much when the chin cuts through the perinæum.

During the last couple of years some of the writers in the United States are following to a certain extent Dr. Temple's advice. One writer uses the words pretty much as they have been used by the student, and says, in a somewhat epigrammatic way, that we want first forced flexion followed by forced extension. We think it safer, however, to accept the description of Dr. Temple, and say nothing about forced extension, as the term forced extension is misleading and may do harm, as no "forceing" is required.

Caesarean Section.

Sir Wm. Sinclair, of Manchester, reported . Cæsarean section successfully performed for the fourth time on the same woman (*Journal of Obs. and Gyn. of Brit.*, Nov., 1907).

The patient was a IV-para, aged 34 years, extremely deformed.

Labor had set in the previous night, the child was living, with the head above the brim of the pelvis. Abdominal incision was made along the centre of the old cicatrix, and as the dissection proceeded it was impossible to distinguish where the parietal structures ended and the uterine structures began. This permitted the whole operation to be completed without any apparent opening of the peritoneum. The wound in the uterus was closed with two series of silk sutures and with a few silk-worm-gut sutures which brought the skin together in the external wound. The wound was dressed in lint soaked in carbolic acid and glycerine.

The convalescence was without incident. The child was a female, weighing 8 1-2 pounds, and 18 inches in length.

Sir William strongly opposes sterilizing the patient, and agrees

with Wallace that "all Cæsarean sections should be performed with the view to ulterior pregnancy."

With regard to the time of operating, as a rule, there is no choice, as most patients come under observation in labor. The objections to the operation before the onset of labor that it predisposes to hemorrhage from improper contraction, and that without the dilatation of the os, drainage would be interfered with, are set aside as being absolutely groundless. The impression is that those operated on before the onset of labor have the smoothest convalescence.

He thinks that many of the fatal cases of repeated Cæsarean operation resulted from interference with adhesions which it would have been better to let alone.

The Treatment of Endometritis by Irrigation and Drainage.

Dr. Augustin H. Goelet, of New York, presented a paper with this title at the meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Charlotte, N.C., February 18-19th, 1908. He says: "The fundamental principle in the treatment of endometritis, in whatever form encountered, is drainage—drainage not only of the cavity of the endometrium, but of the submucous glands as well. In conjunction therewith, irrigation to free the surface of debris and agglutinated secretion, and thus assure cleanliness and free the orifices of the secreting gland ducts is essential."

He accomplishes this by means of a specially constructed double current uterine irrigator, small enough to permit introduction through the canal of the cervix without previous forcible dilatation. This is converted into an electrode by connecting it with the negative pole of the galvanic current, which is continued in force with 10 m. of current throughout the irrigation. Thus negative electrolysis is made use of to facilitate the introduction of the irrigator, and by relaxing the canal favors subsequent drainage. He maintains that the action of the current stimulates the glands to throw off pent-up secretion, and facilitates removal of tenacious mucus that may block the orifices of the glands.

He believes that the curette, though sometimes required, is used far too often and unnecessarily in this condition, and that when curettage is employed it is to be regarded only as the initial step of the treatment, subsequent irrigation and drainage being necessary to effect a cure.—*Medical Record.*

Editorials.

CRIME AMONG DOCTORS.

On the morning of March 18th, one driving or walking along the streets of Toronto had many opportunities of seeing large posters containing big headlines, the first and largest being "Crime Among the Doctors." One was able to ascertain from another part of the poster that he could get full particulars in *The Daily Globe* of the same date. On looking for such particulars, he could find a strenuous editorial on "Crime Among the Doctors." On considering the tone of the editorial and the methods of advertising it, one might possibly think that a yellow tinge was apt to appear, even in some of our best regulated newspapers. The editorial referred to has for introduction the following sentence: "The medical profession, as a profession, is on trial in Ontario to-day." We consider this a simple truism, which no grandiloquence or "tall-talking" of any speaker or writer can accentuate or depreciate. We shall extract certain portions of a public address, delivered by a professor of a Toronto medical college many years ago. We think the quotation represents fairly well the position taken by the majority of physicians to-day.

"Our profession has often been called a noble one. I sometimes think the expression is to a certain extent misleading, and have more than once expressed my opinions in that direction. From some points of view there is nothing essentially noble about it. I regret to say that we have in our ranks many who would cast huge blots on any standard of nobility we might assume.

"While I have refused to adopt the idea that there is any essential nobility in our profession, I have no desire to cast any slurs upon it. As a matter of fact, I place it second to none in the world, but I would like to impress upon you the fact that it will be exactly what we are pleased to make it. In conclusion, I have simply this to say: our profession is a great and noble one, in the sense that it gives us grand opportunities for good work in the interests of suffering humanity. If we, one and all, as students and practitioners, do our work honestly and conscien-

tiously, having regard to our duties to God and man, we will make our profession good, great, and noble, in the best sense of the words."

We do not happen to know any respectable member of the medical profession, who talks "in a superior and indignant tone about its dignity and unimpeachable honor." We think, in connection therewith that the following remark is singularly inappropriate: "But it remains shamefully true that, under the guise of that dignity, and protected by that honor of the profession, the most despicable crimes against morality are committed." Judging from these remarkable words, and the whole tone of the article, we should gather the impression that our profession is not now on trial, but has been tried, and *The Globe* is passing sentence on it.

The Medical Council is censured for not living up to its obligation in guarding the honor and good name of the medical profession. The statement is made that "it has the needed authority, under the Medical Act." It is presumed that the Council can act on evidence that is "morally damning," and strike the names of certain offenders off the roll of licensed practitioners. Unfortunately, this is not correct. The Council has no such power. It can take away a license only on evidence that will be deemed sufficient by the courts of law, to whom anyone dispossessed of his license can appeal.

It is stated that the names of disreputable physicians in Toronto are well known, and are "bandied about in the common gossip of the street." We believe that is true, but respectable doctors know less about these murderous acts than "the man on the street." So far as possible, all evidence is concealed from them by the guilty parties, their friends and associates. We quite agree with all the remarks which have appeared in *The Globe* and other newspapers as to the enormity of these crimes. We believe that the medical profession, the clerical profession, the press, and the police authorities should work together to suppress such crimes by dealing out adequate punishment to the criminals. Scolding, or lecturing, or belittling, or misrepresenting each other can do no good; on the contrary, each and all may do harm.

RACE SUICIDE.

There is on the staff of *The Toronto Mail and Empire* a deservedly popular writer, "Kit." Her columns in the Saturday issues are always bright and charming, and, better still, *uplifting*. In a recent issue (March 21), she spoke of the danger of Toronto becoming the "Canadian centre of race suicide." After referring briefly to "the poor girl in trouble," she goes on to speak of "married women trying, by every desperate means, to avoid motherhood—the best thing we women have, by the way." That sentence contains a world of truth, and touches on perhaps the most important aspect of the so-called race suicide. Kit happens to hold very high ideals as to that sweetest of all sweet things—motherhood. She has endeavored to teach the women of Canada their high and important duties in connection therewith. We admire her and honor her for her good work in that direction.

Well, now, Kit, let us have a little talk about Toronto. If you like us half as well as the writer likes you, it will be a friendly talk. You are clever, and a shrewd observer. You know and appreciate that noblest specimen of God's creation—a good woman. You know and sympathize with the woman who is weak, not because of badness, but simply from lack of strength. Let us again suggest that you have often uplifted her. You know something about the women of Toronto; you know something about the physicians of Toronto. Let us leave out of the question the poor heart-broken girl, who goes to the doctor's office with her fifty dollars. Let us consider the case of the married woman who wishes a physician to commit a crime.

Will you explain the following sentence in your article? "Some fashionable physician, living in a grand house, driving his motor, commits—every time he gets the price—a sordid murder, and goes scot-free." It happens that the number of fashionable physicians who drive motors, in Toronto, is somewhat limited; and, by a somewhat singular coincidence, most of those who would come under this category are supposed by those who ought to know them best to be very strongly opposed to such practices.

We have no great respect for the term fashionable, but we believe that, so far as Toronto is concerned, the fashionable physicians are respectable.

Now, a few words from our standpoint. With all our imperfections, we believe that the great majority of physicians in Toronto are respectable, as to abstinence from such crimes. We might say the same of the Province of Ontario, but, for the present, we desire to speak only of the city which you mention. A certain number of our physicians—let us say six—are supposed to be professional abortionists. They should be deprived of their licenses; but that is difficult to accomplish with the present legal machinery. They are, however, practically ostracized by the profession. No one of them can gain admission into any respectable medical society, such as the Toronto Academy of Medicine. This is not much punishment for them, but as to more drastic measures we are absolutely powerless.

In conclusion, Dear Kit, will you believe us when we say that the great majority of the physicians of our city are as much opposed to criminal practices as yourself. The writer of this article desires to repeat a statement, which he has often made in the past. It is probable that the two classes who are fighting most strenuously against the evils of race suicide in all civilized countries are practitioners of medicine and priests in the Roman Catholic Church. This, however, is the sort of work that "the man on the street" and certain press writers know but little about.

THE ONTARIO MEDICAL ASSOCIATION.

We are requested to remind our readers that the next meeting of the Ontario Medical Association will be held in Hamilton, May 26, 27, 28, under the presidency of Dr. Ingersoll Olmsted.

Much work has already been done by the Committee on Papers and Business, under the chairmanship of Dr. R. R. Wallace. As before announced, it is expected that Dr. Chas. S. Stockton of Buffalo will deliver the Address in Medicine, and Dr. Chas. L. Scudder, of Boston, the Address in Surgery. A provisional programme has already been distributed throughout the Province.

The Committee on Arrangements, under the chairmanship of Dr. A. B. Osborne, has nearly completed the work assigned to it. We are assured that the social side will be well looked after by our good friends of Hamilton. Arrangements have been made for a smoking concert at the Yacht Club, Hamilton Beach, on Tuesday evening, May 26th. On the following day the physicians of Hamilton will entertain the visiting members at a banquet in the Royal Hotel. There will also be a luncheon at the City Hospital after the morning session on Tuesday. The Committee asks us to announce that they especially request the visiting members to bring their wives and daughters, who will be happily cared for by the ladies of Hamilton.

We are also requested to announce that the golfers, yachtsmen and bowlers will be welcomed by the local clubs of Hamilton. The golfers are asked to bring their clubs, as the privileges of the Golf Club will be extended to all visitors through the courtesy of the President, Mr. J. J. Morrison, and his Committee. Similar privileges will be extended to the visitors by the Hamilton Thistle Club, through the courtesy of the President, Mr. Haslett, and the President of the Bowling Club, Dr. H. A. Wardell. Bowls will be supplied to the visitors by the members of the local club.

We believe we are justified in saying that the officers of the Association for this year are doing the best work, as to preparation for the coming meeting, that has been known in the history of the Association. We sincerely hope that this magnificent work will be duly understood and properly appreciated by the profession of Ontario. The next meeting should be the largest that the Association has ever had.

UNITY IN THE PROFESSION.

It would be a great blessing to our profession if its members could always work together. By doing so they would be more highly respected by the public, and would accomplish more good in every way. From the lower plane of a business standpoint, such unity is very desirable; or, in other words, *it would pay.*

A few weeks ago the writer visited a town of about 3,500 inhabitants, situated 100 miles from Toronto. There are six physicians practicing in the town. At one time there was a good deal of cutting and undercutting as to fees. It fortunately occurred to some of these doctors that it would be more sensible, and more satisfactory, to agree to stop this custom. As a consequence, all the physicians of the town met and decided on a fixed tariff, and signed a document pledging them to adhere rigidly to such tariff. The results have been exceedingly satisfactory in every way. In the first place adherence to the new rules adds something like 25 per cent. to their incomes, and, in the second place, the doctors are more highly respected by the public on account of more dignified methods of procedure under this new regime.

The saddest spectacle one can witness in this country is a small village having only two doctors, who are continually belittling and injuring each other.

The Medical Association of St. Catharines has set a good example to other cities by its recent action in regard to life insurance companies, to which we referred in a former issue. The life insurance companies were notified that after the 1st of July last the minimum fee for life insurance examinations would be $5. We understand that most of the leading companies of the United States and Canada have agreed to pay such fee. There can be no question that the members of the Medical Association of St. Catharines are right in their contention, and we believe that the time has passed when one or two disreputable practitioners can spoil such an agreement by the so-called undercutting. Large insurance companies have no great faith in cheap doctors.

The freedom of the city of London was bestowed upon Florence Nightingale, the organizer of nursing in the Crimean War. Sir Joseph Dimsdale, the City Chamberlain, in making the presentation, explained that the city regretted that, through the unexplained omission of a former generation, Miss Nightingale, who is now in her 87th year, had not been honored in this way half a century ago.

Amalgamation of Toronto Hospitals.

For some time we have heard rumors of the fact that an important amalgamation of two hospitals in Toronto was contemplated. We understand that a joint meeting of the Trust Boards of Grace and the Western Hospitals was held on Saturday, March 7th. The proposed union was very thoroughly discussed and was generally approved.

In case of amalgamation it is now supposed that new buildings for the purposes of the amalgamated hospitals will be erected on the grounds now occupied by the Western Hospital.

We believe there is almost a universal consensus of opinion that such a union would be advantageous to all parties, and would be in the interest of the general public residing in the very large district sometimes called Western Toronto.

The Sixteenth International Medical Congress.

The Sixteenth International Medical Congress will be held in Budapest, the capital of Hungary, under the patronage of His Imperial Majesty the King of Hungary (Emperor of Austria), from the 29th of August to the 4th of September (inclusive), 1909.

It will be the endeavor to establish a strong Canadian National Committee to represent Canadian Medicine at this Conference, and the Executive Committee of the Canadian Medical Association has reappointed Dr. W. H. B. Aikins, of Toronto, to act as Secretary of the Canadian National Committee. Dr. McPhedran, who was Chairman of the Canadian Committee for the International Medical Congress, held at Lisbon, 1906, will be associated in endeavoring to secure the formation of a strong and representative Committee. Any member of the profession in Canada desiring information may communicate with either Dr. A. McPhedran or Dr. Aikins.

Matters of interest pertaining to the Congress will be published from time to time.

The members of the Congress will be (*a*) certified doctors, who apply and have paid membership fees; (*b*) experts, having paid membership fees, with recommendations from the Canadian National Committee to the Executive Committee of the International Medical Congress, will be admitted as members. The membership fee is $5.00.

The following is taken from the advance announcement received from Budapest:

The Congress is divided into the following departments: Anatomy, Embryology, Histology, Physiology, General and Experimental Pathology, Microbology (Bacteriology), Pathological Anatomy, Therapeutics (Pharmacology, Physical Hygiene, Balneology), Internal Medicine, Chirurgery, Obstetrics and Gynecology, Ophthalmology, Diseases of Children, Diseases of the Nervous System, Psychiatrics, Dermatology and Syphilography, Aurology, Laryngology, Otology, Stomatology (Dental and Oral Surgery), Hygiene and Doctrine of Immunity, Juridical Medicine, Military and Naval Surgery, Navigation Medicine and Tropical Diseases.

By the 31st January, 1909, those who desire to present papers will have to hand the manuscript of their communications to the office of the Congress, and they will receive them in print, sent to their addresses, by the 31st July.

The corrections will be made by the Secretaryship. A legible hand is enjoined. The term for the announcement of optional subjects is fixed for the 30th April, 1909.

Members are permitted to co-operate in the departments of others, besides those of their own choice.

The office of the Congress, in its international intercourse, will avail itself of the French, German and English languages. At the festival and general sessions, the above-named languages may be used. In the departmental sittings, however, other languages are available; provided one of the members present communicates, within the time fixed for the duration of the festival, the purport of the lecture or discussion in one of the above-named languages.

The whole of the correspondence is to be directed to the office of the Congress. Office of the Sixteenth International Medical Congress, Budapest, VIII., Esterhazy-Utcza 7.

The term for forwarding applications with reference to the organization of the Congress expires on the 31st December, 1908.

The programme of social gatherings, and of making known railway favors, of accommodations, and of excursions, will be published by the 30th April, 1909.

International Congress on Tuberculosis.

As before announced, this Congress will be held in Washington, D.C., Sept. 21st to Oct. 12, 1908. The Central Committee has announced an offer of the following prizes:

1. A Prize of $1,000, for the best evidence of effective work in

the prevention or relief of tuberculosis by any voluntary association since the last International Congress, in 1905.

2. A Prize of $1,000, for the best exhibit of an existing Sanatorium for the treatment of curable cases of tuberculosis among the working classes.

3. A Prize of $1,000, for the best exhibit of a furnished house, designed in the interest of the crusade against tuberculosis.

4. A Prize of $1,000, for the best exhibit of a dispensary for the treatment of the tuberculous poor.

5. A Prize of $1,000, for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis.

6. The Hodgkins Fund Prize of $1,500, offered by the Smithsonian Institution for the best treatise on the relation of atmospheric air to tuberculosis.

In addition, there will be a number of prizes of $100 each, for educational leaflets. In addition to these money prizes, a large number of gold medals, silver medals and diplomas will be presented for other contributions and exhibits.

Full particulars may be obtained from Dr. John S. Fulton, Secretary-General of the Congress, Washington, D.C.

It is not expected that work on the New General Hospital, Toronto, will be commenced during the year 1908.

Personals.

Dr. Samuel Moore has removed from Horning's Mills to Toronto Junction.

Dr. A. M. Rowles (Tor., '05) is engaged in post-graduate work in London, England.

Dr. Peter Reid (Tor., '07), formerly of Erin, Ont., is now practicing in Spokane, Wash.

Dr. J. M. Shaw (Tor., '88), who practiced in Keene, Ont., for a time, has removed to Regina, Sask.

Dr. B. A. Cohoe (Tor., '01) is now one of the assistants in Medicine in Johns Hopkins University.

Dr. George McDonagh, of Toronto, returned from the West Indies, and resumed practice March 18th.

Dr. D. C. Murray (Tor., '04) has removed from Atwood to Shelburne, where he is now practicing medicine.

Dr. Sam Johnston of Toronto, after spending a couple of weeks in London, England, went to Paris, February 28th.

Dr. J. T. Mullen and Mrs. Mullen, of Brampton, celebrated their golden wedding on March 4th in their home at Brampton.

Dr. W. J. Abbott (Tor., '01) is now practicing in Cleveland, O., and is devoting his attention entirely to the eye, ear, nose and throat.

We are requested to repeat our announcement that the Canadian Hospital Association will meet in the Parliament Buildings, Toronto, April 20-21.

Dr. E. G. Hodgson (Tor., '06) has returned from post-graduate work in Europe, and is now practicing in Toronto, his office being at the corner of Bay and Adelaide streets.

S. J. Meltzer, M.D., LL.D., head of the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research, New York, will deliver a lecture on "The Nature of Shock," Tuesday, April 7th, before the Academy of Medicine, in the Library Building, Queen's Park, Toronto, at 8.30 p.m.

We learn from the *Montreal Medical Journal* that Dr. Jean Philippe Rottot has retired from the position of Dean of the Medical Faculty of the University of Laval. Dr. Rottot was born at L'Assomption in the year 1825, and commenced practice

in the year 1847. The *Journal* says: "Few men have had a more distinguished career in their profession than Dr. Rottot, and few have brought more honor than he upon their race and nationality.

We also learn from the *Montreal Medical Journal* that Dr. E. P. Lachapelle has been appointed Dean of the Medical Faculty of Laval, in the place of Dr. Rottot. Dr. Lachapelle's many friends and admirers in Toronto and other parts of Canada will be glad to hear that he has been thus honored. We certainly agree with our contemporary in its statement that no medical man of our generation in Quebec has devoted himself so disinterestedly for so long a period, or in so many different directions, to the promotion of the health and well-being of his fellows as has Dr. Lachapelle. To him more than to any other is due the establishment of the Provincial Board of Health, and over which he has presided for now close on twenty years, with a steady increase in the power and efficiency of the institution. Dr. Lachapelle was mainly instrumental in the building of Notre Dame Hospital, and in later years presided for some time over the College of Physicians and Surgeons of Quebec.

AFTER TWENTY YEARS.

Twenty years ago the following personals appeared in THE CANADIAN PRACTITIONER. We are glad to note that the gentlemen mentioned are still in evidence.

Dr. G. R. McDonagh has removed to 321 Church Street.

Dr. McKay, Woodstock, seconded the Address from the Throne.

Drs. W. W. Ogden and R. A. Pyne, of Toronto, have been re-elected to the Board of School Trustees.

Dr. Ball has removed to Sherbourne Street.

Dr. Cameron, Toronto, met with rather a serious accident on February 10th, when he was thrown from his sleigh and received injuries to the head, with concussion of the brain. He was confined to his house about two weeks, and under the influence of rest and quiet no unfavorable symptoms developed. He is still weak, but it is hoped that his recovery will soon be complete.

Dr. G. S. Ryerson leaves for Europe in May.

Dr. McKid, of Seaforth, is now in Vienna, Austria.

Dr. W. P. Caven, Toronto, has received the L.R.C.P., London.

Dr. J. E. Elliott has been appointed surgeon to the Toronto Field Battery.

Dr. Pepler has returned from England and commenced practice on College Street.

Drs. Grasset and Tesky were appointed to the staff of examiners for Victoria University.

Dr. Sam Cummings, Toronto, has received an appointment to Bellevue Hospital, New York.

Dr. A. H. Ferguson has been elected Professor of Surgery in Manitoba College, in place of Dr. Kerr.

We regret to learn Dr. J. D. Wilson, of London, has left that city for California, owing to failing health.

Obituary.

T. M. MILLER, M.D.

Dr. Miller, of Medford, Wis., died February 1st. He graduated from Trinity University in 1877, and practiced for some time in Keene, Ont. After leaving Keene he lived for a time in Jamaica, West India Islands.

VICTOR W. STEWART, M.D.

Dr. Stewart, who graduated from the University of Toronto in 1905, died at Denver, Col., February 10th.

WM. R. PRINGLE, M.D.

Dr. Pringle, C. P. R. doctor at Schreiber, died suddenly February 17th.

ARCH. H. ANDERSON, M.D.

Dr. Anderson, of Webbwood, died at his home, March 16th, aged 28. Deceased was a brother of Dr. Harry B. Anderson and

Dr. Duncan Anderson, of Toronto. He obtained his degree from Trinity, and was well known in military circles, having been at one time captain in the 35th Regiment of St. Thomas, and also a member of the first contingent to South Africa. He had been practicing in Webbwood for the last four years.

JOHN McMASTER, B.A., M.D.

Dr. McMaster, of 116 McCaul Street, Toronto, died February 20th, aged 49. The cause of death was septicemia, from which he suffered about six weeks. The original source of infection was apparently some disease of the naso-pharynx; the chief local manifestations were purulent collections, especially in the neighborhood of the psoas muscle. He suffered intense pain at times from neuritis. He graduated B.A. from Toronto University in 1886, and M.D. from Trinity University in 1894. He was for a time principal of the Technical School of Toronto. During the last few years he had charge of the X-ray Department in the Toronto General Hospital, and was also engaged in general practice.

Susanna Carson Moyes, M.D., who spent many years as a missionary in China, died in the General Hospital at Chatham, February 7th.

Miss McKellar, formerly Head Nurse of the Burnside Lying-in Hospital, of Toronto, died at Pueblo, Col., March 13th. The cause of death was said to be angina pectoris.

Book Reviews.

A Manual of Diseases of Nose, Throat and Ear. By E. B. Gleason, M.D., LL.D., Clinical Professor of Otology in the Medico-Chirurgical College; Aurist to the Medico-Chirurgical Hospital; Surgeon in charge of the Nose, Throat and Ear Department of the Northern Dispensary; formerly one of the Laryngologists to the Philadelphia Hospital. W. B. Saunders Company, Philadelphia and London. Canadian agents: J. R. Carveth & Co., Limited, Toronto.

As its name implies, this work was written for the use of students and general practitioners. It is issued in a concise and compact form, and deals with the investigation and treatment of the diseases of the nose, throat and ear in a practical manner. The object of the writer has been not only to impress his readers with the importance of facts that have been accepted for years, but also with the larger knowledge that has accrued from more recent investigations.

Treatment, however, seems to be the writer's strong forte. With him, to be anything is to be didactic—a good thing, no doubt, in a treatise for students—the larger liberty being assumed by them at a later date.

One would judge from his writings that the author rarely uses general anesthesia in operations upon the tonsils or within the naso-pharynx, even in cases of children; but when he does, ether is always the anesthetic chosen.

In speaking of the different methods of reducing hypertrophy of the faucial tonsil, when the electrocautery operation is the one chosen, he still refers to it in the old way of two decades ago, thus: "Five to fifteen operations are required to reduce the gland to satisfactory dimensions;" whereas, one-third of the number should be amply sufficient in any judiciously selected case.

In the treatment of the later stages of acute laryngitis, insufflations of 46 per cent. of sulphate of zinc in sugar of milk and gum arabic, or 50 per cent. of alumnol in sugar of milk, are otherwise recommended as appropriate remedies (? ?).

While minimizing the unimportant, the author deals at length with the more important subjects. The much-vexed question of operations for the correction of septal deformity occupies a large place; and many of the operations that have been practiced are described pretty fully. Naturally he gives prominence to his own, the Gleason or U operation; while, unfortunately, the H

operation—possibly a better one—he merely mentions by the letter. Submucous resection is not given a paramount place, and in this he is right.

Frontal sinus disease is not so fully dealt with as it might be; and it is to be regretted that the description of Killian's operation, the one that is at present receiving the widest attention, is both erroneous and incomplete. Killian *does not* shave the eyebrow in his frontal sinus operation; while he does more than is represented; for, in order to remove the anterior ethmoid cells and secure efficient nasal drainage, he chisels away a portion of the frontal process of the superior maxillary bone, leaving the superciliary ridge intact, and this is not mentioned by Gleason.

In so compact a work a due regard has been paid to all the ordinary diseases of the ear; and many valuable illustrations, a large number of them being original ones, are found throughout the work.

Carrying out the idea of unity, the author has discarded the ordinary division of his list into chapters, the different subjects of Nose, Pharynx, Larynx, and Ear being each a single story from start to finish; and on the whole the work can be highly commended to that large class of practitioners who devote themselves to general and not to special practice. The work closes with a series of medicinal formulæ.

MINOR SURGERY. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University: Lecturer on Surgery, New York Polyclinic Medical School; Visiting Surgeon, New York City Hospital; Visiting Surgeon, St. Joseph's Hospital; Consulting Surgeon, Randall's Island Hospitals and Schools; formerly Chief in Surgery at the Vanderbilt Clinic. Illustrated with four hundred engravings from original drawings and photographs. New York and London. D. Appleton & Company. Price $5.00.

Dr. Edward Milton Foote, in his Minor Surgery, presents to the profession a book of the most practical nature. He covers fully and in detail exactly the class of surgical conditions with which general practitioners most frequently come in contact. He describes the treatment of many minor surgical processes which are almost untouched either by books on general surgery or the comprehensive systems of surgery. It will prove valuable to the older members of the profession by bringing some of their old-fashioned ideas up to date; although it is to be regretted that Dr. Foote has not seen fit to include such recently estab-

lished principles as the treatment of acute inflammatory changes by vaccine injection or by the hyperemic methods of Bier. It is almost needless to emphasize the infinite value of this work to both the surgeon in charge and the student in attendance at out-patient clinics, for it is from this class of cases that the author has drawn his data.

The book is divided into sections on the anatomical regions of the body, under each of which injuries, inflammations, tumors and deformities are discussed. The arrangement is excellent, and a good table of contents and index enable one to conveniently use it for reference. Original and well-finished photographs are profusely distributed throughout the book. If space allowed, one might mention numerous articles on particular subjects which are worthy of special attention. One cannot fail, however, to commend the author for including a chapter on the female genito-urinary organs, for which one usually has to refer to works on gynecology. Other chapters deserving of special mention are those on anus and rectum, on dislocations and fractures of the hand, on injuries of leg and foot, on bandaging and on surgical dressings. The medical profession has waited long for just such a book as Dr. Foote has written, and will thank him many times for the admirable way in which he has accomplished his ask. E. S. R.

GREEN'S ENCYCLOPEDIA AND DICTIONARY OF MEDICINE AND SURGERY. William Green & Sons, Edinburgh and London.

Vol. III—Earth Burial to Gummi Indicum. The two new volumes of Green's Encyclopedia which have just been received are issued in keeping with those already published, and in every way are up to the original standard. The number of subject-headings being so large, in this case numbering nearly eleven hundred, it is impossible to do more in a brief review than to draw attention to those whose importance is most striking. In the earlier pages we notice especially articles on Eclampsia, Ectopic Gestation and Eczema, following which comes one on Human Embryology, discussing general principles governing development, the chronology of embryonic life, the embryo being described week by week in its development. Organogentic rearrangements and the neofetal period finally receive attention.

The Enzymes, Epidemiology, Injury and Diseases of the Eye and Biliary Apparatus, and, lastly, a comprehensive review of gout, terminate the series.

Vol. VI. embraces in alphabetical order subjects from Lum-

bar Region to Nephrotomy, and, as in the former volumes, J. W. Ballantyne is responsible for the great majority of articles of less than 1,000 words. Here again we notice such prominent contributors as Osler, Stile, Tirard, and many others.

A large section is here devoted to the Lungs, tuberculosis occupying the greater part, and being edited by R. W. Philip, F.R.C.P.E. That on Malaria is one of the best, the illustrations being especially fine, while those on Meningitis and Nephritis are well worthy of perusal.

IMMUNE SERA.—A concise exposition of our present knowledge concerning the constitution and mode of action of antitoxins, Agglutinins, Hemolysins, Bacteriolysins, Precipitins, Cytotoxins, and Opsonins. By Dr. Charles Frederick Boldnan, Bacteriologist, Research Laboratory, Department of Health, City of New York. Second edition, rewritten, first thousand. Published by John Wiley & Sons, New York. London: Chapman & Hall, Limited. 1907.

The title and the description above so fully covers the contents of the work that very little remains to be said. The general practitioner or student who desires to keep in touch with the latest advances in Immune Therapy cannot do better than carefully peruse Dr. Boldnan's excellent exposition of the most recent views and theories of disease, and its relation to the bodies found in the blood serum.

Erlich's side-chain theory is the first subject to be discussed in its relation to antitoxins, then the formation of agglutinins, according to the same theory, and the reception of various types are explained. Throughout diagrammatic figures have been profusely introduced to elucidate the subjects under discussion, and have proved of the greatest value in following some of the arguments.

Towards the end of the volume the author devotes chapters to snake-venoms and their antisera, also to serum sickness. Finally we beg to congratulate him on this excellent little production on a subject so full of interest to all students of medicine.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. The New (8th) Revised Edition. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1317 pages, fully illustrated. Philadelphia and

London: W. B. Saunders Company. 1907. Cloth, $5.50 net; half morocco, $7.00 net. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

We have received with pleasure the above volume, and noted many additions since the last edition, some of which are worthy of notice: the number of illustrations has been increased; many new and useful diagnostic tables have been inserted, and we also note that preference has been given to modern orthography and terminology throughout the text; certain other subjects, among which aplastic anemia, Stokes-Adams disease, Vincent's angina and the use of X-rays in leukemia, are prominent, have been newly discussed.

Since the book is primarily intended as an introduction to the study, rather than an exhaustive treatise, on disease, the author has avoided historic references and laid stress on the more practical side of the subject under consideration. Following the definition of each disease, he reviews first the Pathology, then the Etiology, Symptoms, Diagnosis and Treatment receive attention, thus presenting to the student a connected description of the subject. Emphasis has been placed on synthetic induction and differential diagnosis, and under the head of treatment the resources of preventive medicine, dietetics, and physiologic therapeutics have received due attention.

ESSENTIALS OF MODERN ELECTRO-THERAPEUTICS. An elementary text-book on the scientific and therapeutic use of electricity and radiant energy. By Frederick Finch Strang, M.D., Instructor in Electro-Therapeutics at Tufts College Medical School, Boston. Rebman Company, 1123 Broadway, New York.

The above is a profusely illustrated volume of about 100 pages, intended not only as a student's text-book, but as a practical aid to practitioners. The author has endeavored in some measure to overcome the "intense prejudice freely expressed by prominent members of the profession against the use of electricity as a therapeutic agent" by the production of this work.

The chapter headings include those on the laws governing matter, force and electro-physics. A section on Physiology from an electrical standpoint is worthy of attention. Then follow those on Galvanism, Faradism, Electro-Diagnosis, the X and Ultra Violet Rays, Photo-therapy and the Therapeutic Use of ozone concludes the volume.

A MANUAL OF THE PRACTICE OF MEDICINE. New (8th) edition, thoroughly revised. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. 12mo of 558 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Flexible leather, $2.50 net. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

That the medical students of this continent desire a compend of medicine is shown by the fact that Stevens' "Manual" has reached its eighth edition in nearly as many years. Although quiz compends are not the best form of text-books, and are not used by the higher type of student, yet there are many things to be said in their favor. This volume is a handy pocket size, has good type, and the various diseases are described very concisely.

PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by H. A. Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M.D., Visiting Physician to the Tuberculosis Department of the Philadelphia Hospital. Vol. I. March, 1908. Lea & Febiger, Philadelphia and New York.

The contributors to this volume are: Floyd M. Crandall (Diseases of Children); A. B. Duel (Otology); C. H. Frazier (Surgery of the Head, Neck and Thorax); Braden Kyle (Rhinology and Laryngology); and R. B. Preble (Infectious Diseases).

Once every year *Progressive Medicine* covers the whole field of medical science, taking up a portion of it every three months. The March number is most complete in the subjects it deals with. No physician can keep up-to-date so easily as by reading this excellent quarterly.

SYPHILIS IN THE ARMY, AND ITS INFLUENCE ON MILITARY SERVICE; ITS CAUSES, TREATMENT AND THE MEANS WHICH IT IS ADVISABLE TO ADOPT FOR ITS PREVENTION. By Major H. C. French, Royal Army Medical Corps; Fellow of Royal Institute of Public Health; Associate King's College, London, etc. John Bale, Sons & Danielson, Limited, Oxford House, 83-91 Great Titchfield St., Oxford St. W.

Major French shows, by the valuable statistics he has compiled, that the Contagious Diseases Acts in Hindustan have been

to some extent effectual. For example, in 1895, when there was no control, 52.23 per cent. of the soldiers were admitted to the hospital for venereal disease, as compared with 20.03 per cent. in 1904, at the end of a period of seven years of control.

The book is full of interesting facts for anyone interested in this branch of public health.

SURGERY: ITS PRINCIPLES AND PRACTICE. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M.D., LL.D., Hon. F.R.C.S. (Eng. and Edin.); Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol. II. Number of pages 920, with text illustrations in colored plates. Philadelphia and London: W. B. Saunders Company. 1906. Per volume: Cloth, $7.00 net; half morocco, $8.00 net. Canadian agents: J. A. Carveth & Co., Toronto.

Volume II. of this very excellent work is equal in every respect to the first volume. In this volume the distinguished author has associated with him such men as Edward Hall Nichols, M.D., on "Diseases of the Bones"; Daniel N. Eisendrath, M.D., on "Fractures" and "Dislocations"; Robert W. Lovett, M.D., on "Orthopedic Surgery"; John Fairbairn Binnie, M.D., on "Surgery of the, Muscles, Tendons and Bursæ"; Frederick Henry Gerrish, M.D., on "Surgery of the Lymphatic System"; John A. Fordyce, M.D., on "Surgery of the Skin"; William G. Spiller, M.D., on "Pathology of the Chief Surgical Disorders of the Nervous System and Its Importance in Clinical Diagnosis"; George Woolsey, M.D., on "The Surgery of the Nerves" and "Surgery of the Spine"; F. X. Dercum, M.D., on "Traumatic Neurasthenia, Traumatic Hysteria and Traumatic Insanity"; and John Chalmers DaCosta, M.D., on "Surgery Among the Insane and Surgery of Insanity."

The subject of fractures covers 281 pages and is remarkable in its scope. The illustrations in this particular section of the work are very clear and accurate. All illustrations point in the simplest possible way. One on page 65 shows a fracture of the clavicle, a most excellent skiagraph, but an arrow indicates the direction of the fracture. Also on page 173 the measurements are so mapped out and designated that it is impossible for anyone not to be able to follow very clearly.

The X-ray photographs of joints, that we know are not always easily comprehended by the non-expert, are in this volume traced so as to clearly show what is intended. The surgery of the joints,

taking 95 pages, and that of dislocations, 90 pages, are exceedingly lucid and clear.

It is impossible to refer particularly in a work of this kind to many isolated subjects, but the "Surgery Among the Insane and the Surgery of Insanity," by J. Chalmers DaCosta, is exceedingly interesting, and rather a new departure. It is certainly done in a masterly way. We quite agree with his conclusion when he says: "My own opinion is that the operation for microcephalic idiocy is not justifiable. The only treatment for idiocy is education, discipline and hygienic care. Of course, in cases of idiocy certain complications may arise to justify operation, the operation being done for the complication, and not with any idea of curing the idiocy. Among those complications which may justify an operation are certain forms of epileptic attacks, muscular spasm, muscular rigidity or paralysis. An operation done for any of these conditions may improve the patient's comfort, although it will not improve the idiocy. A cranial operation may be justifiable in traumatic idiocy or in idiocy in which there are positive pressure-symptoms."

We predict a large sale for this work, and feel satisfied that the succeeding volume will not be in any way inferior to this work. We believe that the third volume is now ready for distribution. The typography, binding and paper have certainly maintained the high standard of the Saunders Company.

HUMAN ANATOMY, INCLUDING STRUCTURE AND DEVELOPMENT, AND PRACTICAL CONSIDERATIONS. By Thomas Dwight, M.D., LL.D., Professor of Anatomy in Harvard University; J. Playfair McMurrich, M.D., Ph.D., Professor of Anatomy in the University of Michigan; Carl A. Hamann, M.D., Professor of Anatomy in the Western Reserve University; George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania, and J. William White, M.D., LL.D., Professor of Surgery in the University of Pennsylvania. With 1,734 illustrations, of which 1,522 are original and largely from dissections by John C. Heisler, Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Edited by George A. Piersol J. B. Lippincott Company, Philadelphia and London. 1907.

We have had for some months this volume of Anatomy for review, and have very carefully considered the whole volume. We feel safe in predicting that it will replace as a text-book the works of Gray and Quain. We look upon it as the most complete text-book on human anatomy to-day. This work is the result of

the labors of five distinguished anatomists and one distinguished surgeon. Prof. J. Playfair McMurrich, Ph.D.—the present Professor of Anatomy in the University of Toronto—has supplied the systematic description of the muscular and of the blood- and lymph-vascular system. Dr. George A. Piersol (editor) has written the introductory, histological and embryological paragraphs throughout the work and contributed the description of the central nervous system, including the deep relations of the cranial nerves, of the organs of special sense, of the carotid, coccygeal and aortic bodies, and of the uro-genital system.

While the older works on Anatomy contain a certain amount of surgical anatomy, this volume has made a new departure and has broadened the scope of surgical anatomy into the practical application of anatomy to surgery. Prof. J. Wm. White, a distinguished surgeon and anatomist, has taken charge of this department, and undoubtedly succeeds in making it a most valuable addition to this admirable work. The illustrations in the volume are many of them original, and all of them accurate.

We predict for this book a large sale, and feel satisfied that it will be adopted as a text-book in the universities. The paper, printing and typography are far superior to the average, and the volume is not bulksome, notwithstanding the fact that it contains 2.100 pages.

Selections.

SURGICAL HINTS.

In making a deep incision for whitlow, it is important not to lay open the tendon sheath from end to end, owing to the great danger of sloughing of the tendon.

In curetting the tympanic cavity it is necessary to bear in mind that the carotid artery is in close proximity to it, and great care is required to avoid perforating the thin wall which separates them.

In spina bifida, if the protrusion is a small one, operation can often be avoided by careful replacement into the spinal canal and the application of a disc of pasteboard held in place with adhesive strips and a bandage.

To reduce a congenital hernia in an infant, an excellent method is that recommended by Owen, of holding the child up by its feet. In this way, the omentum is prevented from dropping into the funicular process during the reduction.

To avoid an unsightly scar after operation for torticollis, the cutaneous incision should be so planned that the cicatrix will lie parallel with the clavicle. This can be done by slightly drawing up the skin before it is incised. In dividing the sternomastoid, care should be taken not to wound the deep cervical fascia.—*International Journal of Surgery.*

Advantages of Iodipin over Potassium Iodide.

Notwithstanding attempts to obviate the depressing effects of potassium iodide, there will still be patients who absolutely cannot take potassium iodide in the needful quantities at all. It becomes necessary to find some other iodine preparation that they can take. As an example of an iodide which produces all the good without many of the bad effects of potassium iodide, we have iodipin. Many medical men of standing have tried it, and have reported well of its effects. It will probably not be tried until potassium iodide has been found impossible of use in any particular case; but, failing potassium iodide, it is good to know that iodipin can take its place.

The preparation is a combination of iodine with sesame oil, discovered by Winternitz; it can be prescribed in various strengths, the two most usual being a 10 per cent. solution and

a 25 per cent. solution. Upon the continent it is largely administered by subcutaneous or intramuscular injection; if it could be used only by this method it would commend itself to few, but, among others, Dr. Stopford Taylor and Dr. MacKenna, of the Liverpool Skin Hospital, have watched the results of giving it by the mouth, and they find them excellent. Some very severe cases of tertiary syphilis were thus treated by them, with rapid improvement in the condition. They prescribed 30 min. of 25 per cent. iodipin in milk, three times a day, about two hours after food. In twelve days, after taking 1 1-2 oz. of iodipin altogether, the lesions, previously very severe, were upon the high road to being healed.

They find that whereas potassium iodide is very rapidly eliminated from the body, particularly in the urine, iodipin is thus lost much more slowly; even two months after the last dose iodine has still been found in the urine. This slow elimination is possibly one of the chief causes of its efficacy; in any case, no symptoms of iodism, and no depression is observed, and the patients gain, rather than lose, flesh.—*The Hospital*, July 6, 1907.

Post-Hemorrhagic Anemia.

The anemia which follows the hemorrhages of trauma, gastric or intestinal ulcers, severe epistaxis, child-birth, profuse menstruation or hemorrhoids presents a clinical picture that is so well known that it requires no description.

Examination of the blood immediately after a severe hemorrhage usually shows no apparent change in its number of corpuscles, for the portion lost withdrew the blood as a whole, and the portion remaining in the body, while decreased in volume, will be found to contain a normal ration of the fluid and cells. Shortly after a hemorrhage, however, the tissues of the body give up large quantities of fluid to restore the necessary volume of the blood, and a condition of true hydremia ensues. Examination of the blood three or four hours after a severe hemorrhage, therefore, shows a very marked oligocythema. Reconstruction must now take place, and the response to the bodily demand is sometimes remarkably prompt, but in most instances it is a hard up-hill fight. This is to be expected, for the disproportion between the cells and the fluid elements of the blood, and the essential depression of all vital functions, makes recuperation a difficult process at best.

Much can be done, however, to assist the body in its efforts to restore normal conditions. The first and most essential re-

quirement is absolute rest in a prone position. In some instances, it may be necessary for a few days to have the couch or bed tilted so that the patient's head shall be lower than the feet. Sudden movements or a sudden rising to an upright position must be strictly interdicted, as these are always liable to produce a fatal syncope. Following severe hemorrhage, the blood pressure is always lowered, and even if a certain degree of tension is apparently restored, it is very unstable, and may be lost instantly, with all of the resulting dangers on the heart and central nervous system.

Another precaution to be taken is to frequently change the patient's posture from one side to the other. The hydremic state of the blood, and the loss of blood tension predisposes to gravitation edema in the lungs and other organs, and the simple procedure of changing the patient's position often avoids annoying and serious complications.

Considerable quantities of water are always necessary after hemorrhage, but it should never be given in large amounts at any one time. Two or three tablespoonfuls at a time by the mouth every few minutes is much more beneficial than to allow a patient to drink to satiation. Excessive thirst is always soon controlled by small enemas (one pint) of saline solution, as warm as can be borne, repeated every three or four hours. These also serve admirably to very materially raise arterial tension. It is no uncommon thing to observe complete anuria for even twenty-four hours after severe hemorrhages, but the warm saline enemas soon correct this condition.

Feeding is one of the most important details in post-hemorrhagic treatment. Liquid food should be used in preference to solids, for obvious reasons, and may consist of milk, beef extracts, white of eggs, etc. Small quantities should be given at short intervals, as it must be remembered that the digestive function is always more or less depressed and can only do a portion of its usual work. A good reliable hematic is early necessary, one that can materially hasten hematosis without endangering the digestive and assimilative functions in any way, shape, or fashion. Pepto-Mangan (Gude) is one of the most dependable remedies of this class, and its hematopoietic properties are well known. Under its use the cellular elements of the blood are rapidly increased, and the whole physical condition is greatly improved. The various organs resume their functions and the distressing and dangerous effects of hemorrhage are safely and properly overcome.

Facts About Digitalin.

Ten years ago Henry Beates, of Philadelphia, published a remarkable paper in which he called attention to the superiority of digitalin-German over all the other preparations of digitalis, his conclusions being that this substance is a derivative not contaminated with other active principles, possessing uniform and unvarying strength, relatively free from that property which produces gastric irritation, a powerful stimulant to the whole cardiac apparatus, and a reliable and pronounced stimulant to the vasomotor system, which does not develop cumulative action, the adult dose ranging from 1-10 grn. as a minimum to 1-2 grn. as a maximum. He found it applicable to all lesions of the heart, with the single exception of mitral regurgitation complicated by dilation of the auricle.

Last February, ten years later, Dr. Beates stated that his further clinical experiences have more conclusively proved the therapeutic value of this digitalin. During these ten years he has treated numerous cases with this product, in the doses and manner outlined, with the most satisfactory results. He says: "I cannot too strongly urge upon physicians the liberal use of digitalin in cases with circulatory disturbances. In collapse of pneumonia, typhoid fever, and in surgical shock as large as 2-grn. doses in 25 cc. of salt solution, hypodermically, has been successfully employed in several instances."

Dr. Beates, as the head of the Pennsylvania State Examining Board for many years, is a man of unquestionable standing; more than that, in his ability as a clinical observer he has few rivals and no superiors, even in that centre of medical culture, Philadelphia. Such testimony is of infinitely greater value than that of any number of even the most accomplished pharmacists. —*Amer. Jour. Clin. Med.*, Feb., 1908.

Some Notes on Styracol.

Charles B. Reinhardt, of London, Eng., states that it is his principle to avoid the use of drugs as much as possible in the treatment of consumption. In the ordinary case there is no advantage in administering drugs when the open-air treatment is followed. Even those suffering from such symptoms as dyspnea, diarrhea, or cough do not always demand medicines. There is, however, one preparation, guaiacol, which is of decided benefit in the treatment of phthisis. Dr. Reinhardt cites a case of cavities in the left lung, in which a fairly good prognosis could be made, owing to the non-involvement of the right lung and the absence of fever. Guaiacol had been given, but was dis-

continued. Very soon the cough became more pronounced, physical examination revealed extensions of the process, and diarrhea appeared. Six weeks after admission, apparently without special cause, the patient again improved, and, on investigating, it was found that he had been secretly taking guaiacol since this time Styracol (the guaiacol cinnamic acid ester) was then prescribed, and a steady improvement followed. The patient is at present married and in good health.

Styracol was tried in a number of other cases, always with encouraging results. The absence of taste and the fact that the drug splits up into its components only in the small intestines makes it preferable to guaiacol.

Where intestinal tuberculosis was suspected or there was merely an accidental diarrhea, styracol was given with advantage, and, too, when there was much cough, expectoration or moisture in the lungs. In one instance an extremely offensive expectoration from a large cavity was corrected.

Ill effects never followed the administration of styracol and more benefit was usually experienced than with guaiacol, probably because the cinnamic acid is also an efficient agent in tuberculosis.

Styracol was given as powder and in tablets. The latter should always be chewed so as to assure absorption.

In the author's opinion, styracol is one of the best available intestinal antiseptics, and its continued use will impregnate the system with guaiacol.—*British Med. Jour.*

Iodipin in the Treatment of Cerebrospinal Syphilis.

A. J. Korolkoff, working in von Bechterew's Clinic in St. Petersburg, reports on the result of the use of iodipin in the treatment of syphilis of the brain and spinal cord after a trial of two and a half years. It is just ten years ago that Winternitz recommended this iodine preparation, and the results as given by the present author are but corroborative of those of a number of observers. Although the remedy is specially adapted to administration by means of the mouth, the author chose to use it hypodermically, by intramuscular injections. To carry on the injections, the iodipin is first warmed in a test-tube to a temperature of about 104 degrees F., which proves most agreeable to the patient. The site for injection is then cleansed with ether and 95 per cent. alcohol, and the injections administered, preferably into the gluteal muscles. The injection is carried out very slowly, 10 to 20 cc. of the 25 per cent. iodipin being used at a dose. The site is massaged for a few moments in the ordinary manner.

Injections are made every week or ten days, and 20 to 40 injectments constitute a "treatment." Careful urinary analyses have shown that there is a breaking down of the molecule in the body, and iodine itself becomes available. Korolkoff has found this method of treatment particularly valuable for various grades of cerebrospinal syphilis, especially in those severe grades which show a marked tendency to chronicity and progressive deterioration. He reports on a number of patients. 7 cases of spinal syphilis, 5 cases of cerebrospinal syphilis, 10 cases of cerebral syphilis, 4 cases of para-syphilis, 2 of tabes, 2 of general paresis, 2 of syphilitic cerebral neurasthenia, and 4 cases of mercurialism. In the spinal cases, in which meningomyelitis was the prominent factor, the patients improved greatly; in three the acute symptoms subsided. In one case of acute transverse myelitis, with marked paraplegia, the motor functions were completely restored. In two old cases of meningomyelitis the ability to walk was not improved, although the general condition was markedly improved. In one case, of three years' standing, of complete paraplegia under mixed treatment, there was a marked objective and subjective improvement. In the cases of cerebrospinal syphilis improvement in the general condition was marked, and complete cure resulted in some cases with marked motor and sensory signs. In the two cases of tabes the pains were greatly improved, the paresthesiæ disappeared, and the patients gained markedly in weight. In one case there was a marked improvement in an optic atrophy. The paretic cases improved in weight somewhat, but there was no positive beneficial result. The neurasthenic cases were much improved, while the cases suffering from ptyalism following mercurialization rapidly recovered.—*Obosrenie Psychiatrii, Neurolog i. experiment. Psychologie*, May, 1906.

The Necessity of Rest After an Acute Illness.

With the advances of bacteriology in its relation to the practice of medicine we learn more and more that many of the conditions of acute illness which we have been accustomed to consider as distinctly local in character are really dependent upon a general systemic infection, in which state all organs of the body suffer to some extent, although certain organs may bear the brunt of the disease, or at least present more sharply defined symptoms than are found in other parts of the body. This important recognition of the fact that nearly all infection is a general condition, rather than a local one, emphasizes the necessity of the physician carefully investigating the state of each

important organ of the body when prescribing for and giving advice to patients who are taken ill, or who are recovering from an acute illness. It not longer suffices to observe alone a diminution in the chief manifestations of a disease before giving a patient a clean bill of health. Such carelessness leads not rarely to prolonged ill health or even permanent invalidism. Thus the number of instances in which patients recover from an acute rheumatism only to become cardiac invalids is by no means small. Even in the case of such a disease as acute articular rheumatism, which is known to exercise a very deleterious influence upon the endocardium, physicians are prone to allow their patients to get up as soon as the joint manifestations are considerably modified. Such a mistaken method may not produce immediate evil effects because the heart muscle may be strong enough to compensate for the damage done to the valves, but ultimately the patient comes under medical observation a second time because he has symptoms of cardiac disability, and then it is recognized that the attack of acute articular rheumatism which occurred some years before is really the direct cause of the grave ill health which is present. It is our own custom to insist that patients who are suffering from acute articular rheumatism should remain at absolute rest for a period of not less than three weeks after the joint symptoms are in abeyance, and this practice has been forced upon us, not only by personal experience which indicates that getting up at an earlier date is prone to result in disaster, but because every clinician continually sees instances of cardiac disease which have undoubtedly had their origin in a rheumatic endocarditis months before.

The necessity of carefully studying the condition of the heart is not limited, however, to that acute infectious disease known as articular rheumatism; it should be extended to every acute infectious disease, whether it be a prolonged illness, as is usually the case in typhoid infection, or whether it be in pneumonia or influenza. While it is true that in acute articular rheumatism the effects are chiefly exercised upon the endocardium, particularly that of the valves, in typhoid fever, pneumonia, and influenza, the venom seems to be chiefly concerned with producing muscular degeneration or great feebleness, and so it not infrequently happens that the patient who gets up too early and thereby strains an enfeebled heart muscle suffers for months and years from cardiac feebleness with or without a certain amount of dilatation, and oftentimes dates his physical incapacity to the attack of influenza or typhoid fever which occurred a long time before. Pathologists have recognized

these cardiac changes much more fully than have clinicians, and have repeatedly urged upon their active colleagues the necessity of considering secondary cardiovascular degeneration. Of course, the necessity of rest after one of the acute infections is far greater in the patient who already has some valvular lesion or tendency to cardiac feebleness than it is in the patient who starts out with a fairly strong cardiac mechanism.

In other words, this is an instance in which the physician is not concerned so much with the administration of drugs for ease, but is relied upon by his patient for advice which will be effective in preventing subsequent ill health, and this advice the patient has a right to expect and to demand.—*Therapeutic Gazette.*

Veronal for the Relief of Itching.

Many of the recent coal-tar and synthetic products have been recommended to give relief from itching, and frequently they will have a more or less beneficial effect; but they must be used with great caution, and frequently the subsequent results are unsatisfactory and even harmful, writes L. Duncan Bulkley, physician to the New York Skin and Cancer Hospital, in an interesting article on the significance and treatment of this unpleasant sensation. Many times he has seen cases in which the use of trional had certainly aggravated the real trouble, and he has thought that the same was true after some of the other so-called analgesics which have been used of late years.

Veronal, however, seems to be an exception, and he has used it, often in repeated doses, with good effects, and apparently also without subsequent harm.—*Jour. A. M. A.*, July 27, 1907.

Treatment of Locomotor Ataxia with Fibrolysin.

In the following case of locomotor ataxia treatment by fibrolysin was followed by much improvement and by return of the knee-jerks, reports F. M. Pope, of Leicester, Eng.

J. B., aged 32, was admitted to Leicester Infirmary on Dec. 20, 1906, complaining of shooting pains in the legs and numbness of feet. He had noticed the symptoms for the past two years; had had great difficulty in walking in the dark; for the previous four weeks had been confined to bed, unable to walk at all.

He had an "abscess on the chest" fourteen years ago, urethral discharge ten years ago; no clear history of syphilis.

He was very ataxic. Romberg's symptom marked. Incoordination of both upper and lower extremities was marked. Unable either to stand or walk. Argyll-Robertson pupil phenomena

marked; no nystagmus. Knee-jerks absent. Facial muscles of right side slightly atrophied. Right side of tongue slightly atrophied. No morbid changes to be detected in other organs.

He was kept under observation for nearly a fortnight without treatment, and his condition underwent no change. On Jan. 2, 1907, treatment by intramuscular injections of fibrolysin was commenced. He received 2.3 cc. (the contents of one vial) hypodermically every alternate day. On Feb. 12 he had had nineteen injections, and could stand better, and walk a little with assistance. Legs warmer, but still much inco-ordination. On Feb. 20 had had twenty-one injections. Knee-jerks were then present on both sides. On March 6 had had in all twenty-four injections. No injurious local effects. Immediate effects of each injection were a feeling of warmth and diaphoresis. He went out walking with assistance.

On May 1 he walked up to the hospital with two sticks. The knee-jerks were still present. He had no shooting pains. Pupil reaction unchanged. Achilles reflex faint but perceptible.

A second case treated at the same time shows little or no improvement, but this does not, in the author's opinion, outweigh the positive results obtained in the first case. Ormerod, in "Allchin's System of Medicine," says: "We think that when ataxia has developed steadily and become thoroughly established, it is likely to be permanent"; and most people will agree with him. In this case advanced ataxia had retrogressed so that the patient can get about and the knee-jerks have returned.

Dr. Pope regards his communication as merely a preliminary note, hoping that it may lead to a further trial of fibrolysin.—*British Med. Jour.*, June 22, 1907.

Typhoid Bacilli in Lice of Typhoid Patients. By Dr. Nakao Abe (*Muench. med. Woch.*).

The author triturated lice obtained from the heads and bodies of typhoid patients, placed a part of this material under the skin of white mice and a part in bouillon. From the latter, after incubation, cultures were made upon typhoid media. In both instances typhoid bacilli were obtained in 75 per cent. of the tests. The bacilli were not found in fleas taken from attendants of typhoid patients.

Spanish law requires mothers to refrain from work for a period of four weeks after childbirth, and factory managers are compelled to retain on the payroll women absent for this cause. Provision is likewise made for nursing the infant, time being allowed in the morning and afternoon for the purpose.