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THE RELATION WHICH HYPERTROPHY OF THE VARIOUS TONSILS OF WALDEYER'S RING BEARS IN THE ETIOLOGY OF DISEASE.

By J. PRICE-BROWN, M.B., TORONTO.

This ring is composed of masses of lymphoid tissue situated in the pharynx and connected with each other in a greater or less degree by lymph channels. The constituent parts of the ring are the Pharyngeal tonsil of the naso-pharynx; the two Faucial tonsils, located on either side between the pillars of the fauces; and the Lingual tonsil, lying on the posterior fourth of the tongue on either side of the glosso-epiglottic fold and behind the circumvallate papillæ. Owing to the separation into two lateral halves which sometimes occurs in the latter, some writers look upon it as double. The same might be said of the pharyngeal tonsil, but for all practical purposes these are single bodies, and may be considered as such.

Besides these various tonsils, there is also situated within each ventricle of the larynx a minute area of adenoid tissue. But as it requires for physiological purposes the demonstration of the microscope, and has little if any bearing upon the health of the individual, it may logically be left out of the circle of Waldeyer's ring; as also may the small amount of lymphoid tissue which in some instances develops in the middle turbinal region of the nose.

In fetal life the tonsils rarely advance beyond a rudimentary stage, hence at birth the post-pharynx is usually

smooth, the space between the faucial pillars free from glandular enlargement, and the base of the tongue marked only by the normal development of the circumvallate papillæ.

This is the condition usually found, even in cases in which serious hypertrophy of the different tonsils subsequently takes place.

The period of development of the pharyngeal and faucial tonsils is between the first and eighth years, while the lingual tonsil rarely manifests itself to a notable degree until near the period of puberty. Still, in rare instances, both the pharyngeal and faucial tonsils are well formed at the period of birth—a sure indication of subsequent hypertrophy.

The tonsils are physiological structures of a lymphoid character; and when normally developed are essential to the physical well-being of the individual. It is only when they grow to larger than normal size, and the tissues of which they are composed lose their proper balance, that they become a menace to health and demand interference on the part of the physician or surgeon.

Tonsillar tissue is composed of follicles. Each follicle consists of a collection of lymphoid or adenoid cells packed closely together, containing a central endothelial reticulum and forming a unit. These units are grouped together, being separated from each other by a similar endothelial network, consisting of fine trabeculæ of connective tissue elements, containing plasma and lymphoid cells. In the different tonsils these adenoid follicles are variously massed, and are covered by mucous membrane of squamous or columnar character. In the case of the pharyngeal tonsil, ciliated epithelium partially covers the columnar.

On the free surface the mucous membrane is of a compound nature, equal in density to the surrounding mucosa; but in the sulci and invaginations which are present in a more or less degree in all the tonsils—parts that are less exposed to external irritation—the membrane is much thinner, looser in texture and possesses less power of resistance.

In certain points, however, while composed in the main of tissues that are histologically alike, the various tonsils differ from each other in structure as well as function.

The Pharyngeal tonsil, situated on the posterior and superior wall of the naso-pharynx, consists of adenoid tissue held together by fine trabeculæ of connective filaments. It is frequently glomerate, but sometimes racemose, and divided into many segments. When the lymphoid tissue of which it is

composed invades the region of the eustachian tube and the fossæ Rosemüller, it is called the tubal tonsil, although really only an extension of the pharyngeal. The mucous membrane is usually thin and formed of columnar epithelium, superimposed in part by a layer of cilia. This gland in its developed stage is richly supplied with blood. When normal the size is never large enough to interfere with respiration. Development is accomplished by the eighth or tenth year. Atrophy then commences and is complete by the expiry of adolescence.

The pharyngeal tonsil differs from the faucial and lingual in being located in a region that is comparatively free from germ life, the inspired air being filtered of bacteria during its passage through the nasal cavities. The secretions of the numerous glands, of which this tonsil is partially composed. likewise act as a covering to protect against attack from morbific agencies; while the invaginations of mucous membrane, being shallower than those located in the faucial tonsil, are less likely to favor retention and decomposition of any foreign matter that perchance may find a lodgment in the naso-pharynx. These facts refer to the normal pharyngeal tonsil, which pursues its development between the first and the eighth years, and disappears by atrophy during the period of early maturity.

The Faucial tonsils, while coinciding with the pharyngeal in regard to period of development and atrophy, differ from it in several important points. The crypts are wider, deeper, and more numerous. Owing, also, to the oft-repeated action of the pillars of the fauces they favor both secretion and absorption. The loose reticulum in the deep invaginations readily admits the passage of bacteria into the lymph channels. At the same time there is constant exposure to the passage of bacilli of various forms in the act of deglutition, which does not occur in the case of the pharyngeal tonsil.

The Lingual tonsil, composed of a series of rounded elevations or follicles of adenoid tissue, situated on the base of the tongue, rarely develops to any observable degree during child life, being practically absent up to the adolescent period. In it the lacunæ are short and wide-mouthed, and the construction racemose. The mucosa within the crypts being composed of dense, stratified epithelium, there is less likelihood of absorption through its meshes, than is the case in the faucial tonsil. Retention of lacunar contents in it is practically impossible, as the fluids that are so frequently swallowed wash not only the surface but the crypts likewise.

It is not, however, when the lymphoid masses, located in the pharynx and designated tonsils, are in a normal condition that they injuriously affect life, but when they are abnormally developed. It is the presence of hypertrophy that assumes the threatening aspect; and from what has already been said, it is manifest that the effects differ directly with the location of that hypertrophy.

1. Although it may be considered an established rule for the Pharyngeal tonsil in the child to pass through a course of development and atrophy, yet in a large majority of instances the development is normal, creating neither symptoms nor functional disturbances. In the minority, however, both occur, a sure indication that nature has passed her legitimate bounds, and that hypertrophy has occurred.

Many causes may contribute to this effect. Probably constitutional dyscrasia is entitled to the first place. In syphilitic and tubercular conditions, and in hereditary tendency toward lymphatic development, we have primal factors.

As exciting causes, damp conditions of climate, residence in unhealthy localities, constant breathing of impure or dust-laden air, ill-regulated exercise, poor food, defective clothing, may be considered as the chief.

Even when abnormal enlargement or the development of adenoids has taken place, the growth being composed simply of hypertrophy of normal tissue, no systemic injury would result but for the obstruction to respiration which its presence induces. In this, the consequences may be very serious, for it converts the nasal breathing, the only natural method, into the oral. In the former the air is heated, saturated, and purified, while passing through the nasal passages, putting it into a fit condition to enter the lungs; while in the latter, it is dry and often impure when reaching the pharynx and larynx, and as a result is the cause of many forms of irritative disease.

The presence of an enlarged pharyngeal tonsil has also in many instances a serious effect upon aural respiration, as the pressure of a tubal hypertrophy upon the eustachian tube not infrequently so closes its lumen that the air cannot pass through to the middle ear. The result is absorption of the air within the drum, collapse of the drum-membrane upon the ossicles, and, not infrequently, bacterial invasion and suppuration of the middle ear.

As a further result of interference with normal breathing, oxygenation of the blood becomes less perfect and resistance less sustained.

2. In hypertrophy of the faucial tonsils, although the etiology and the period of life are the same as in the development of adenoids, the systemic effects are different. The faucial tonsils possess in much larger degree the power of both secretion and absorption. They admit bacteria freely into their crypts, favoring their passage through the loose connective tissue which separates the follicles into the lymph and venous channels, thus contaminating the blood supply. They are also exposed open-mouthed to the great army of germ life which passes into the primæ viæ during deglutition, a danger that the pharyngeal tonsil escapes. It is possible, too, that the palato-glossal and palato-pharyngeal muscles, which enclose the tonsil, may, during the countless times in which they press upon it, not only aid secretion but favor absorption as well.

It is during the period of childhood that the faucial tonsils assume their greatest hypertrophy, and it is during that period that exanthematous diseases prevail to the widest extent. The question is, What relation does the one fact bear to the other? Is it not due to the innumerable avenues open to the entrance of bacteria through the soft, spongy faucial tonsils? Clinical evidence has proved that children possessing large, soft tonsils are not only more frequently attacked by scarlatina, measles, diphtheria, etc., than are children of a similar age whose tonsils are normal, but that the attacks are much more likely to be of a virulent and fatal type in the one than the other. Do not these facts indicate that the child possessing the hypertrophy has more avenues through which the bacilli can enter the system, and also that he possesses less power of resistance?

In cases of tonsillar hypertrophy extending into adult life, the constant oral breathing renders the tonsils very susceptible to inflammatory action. In these successive attacks of tonsillitis, the crypts, particularly near the proximal ends, are filled with exfoliated epithelial cells, polynuclear neutrophiles, bacteria, lymphoid cells, and in many cases fibrin, resulting in a gradual hypertrophy of connective tissue elements with a tightening of the cryptal orifices. Although the condition may be slow in development, it is progressive, leading to the growth of fibrous tissue at the expense of adenoid.

This may be attended by two results. When the successive inflammatory attacks induce final adhesion of the lacunar orifices, and the outer ends of the cryptal walls, cyst-like cavities are likely to occur in the deeper structures, which may be filled with pathological *debris* and bacteria. When the

occlusion is not complete, saprophytic invasion through what remains of the cryptal orifices is likely to result, with decomposition of the lacunar contents.

Hence, in adult life, the permanently enlarged tonsil is likely to present a hard fibrous surface, whose closed crypts, on the one hand, may be distended by cyst-like cavities filled with putrescent matter, or, on the other, possessed of open cavities with narrow outlets, through which are forced by the action of the faucial muscles foul, cheese-like masses undergoing putrefaction. In either case the decomposing process is the result of prolonged retention, and in either case is apt to produce a condition of physical debility.

It is thus an accepted fact that micro-organisms reach the circulatory system through minute blood-vessels and lymphatics, and that one of the principal avenues of entrance is through the crypts of the faucial tonsil. Hence it is believed that the various bacteria of the exanthemata may enter in this way, as also do the bacillus of Pfeiffer in influenza and the diplococcus in rheumatism.

It follows that when in early life the tonsils are enormously enlarged, with multiplied and deepened crypts, and widely-extended and attenuated mucosa, the dangers of infection are the highest; and the physician should be fully cognizant of the portending result, should he allow such adverse conditions to remain.

3. Hypertrophy of the lingual tonsil differs materially in its effects upon the system from the two already discussed. It usually develops at a period of life in which the pharyngeal and faucial tonsils have not only performed their doubtful functions, but have also passed through their retrograde metamorphosis and disappeared. Quite possibly the presence of a lymphoid cachexia may be an important factor in its development, and it may occur only in individuals who have previously suffered to a greater or less degree from adenoid or faucial hypertrophy; nevertheless, its history and its effects upon the physical system are so markedly its own, that it is worthy of a separate place in the study of the lymphoid ring.

As said before, the lacunæ in the lingual tonsil, even when developed into a condition of hypertrophy, are so short, so widely open, and so freely washed by the oft-repeated swallowing of fluids, that retention of bacteria and decomposition of substances within the crypts cannot very well occur. So that there seems to be little probability of septic infection occurring from retained excreta.

Hence, the evils which hypertrophy of the lingual tonsil give rise to are chiefly of a local character. They consist of a feeling of swelling at the base of the tongue, the presence of mucus in the throat, the sensation of a foreign body in the glosso-epiglottic notch, and disturbance of the normal voice—the last-mentioned being particularly noticeable in the case of singers and speakers.

This category of symptoms and effects, which owe their existence in so large a degree to the presence of hypertrophy in the various segments of the pharyngeal tonsillar ring, clearly indicate the advisability of eliminating, as far as possible, this element in the etiology of disease. While we recognize the fact that these tonsils are in some way necessary to the proper and efficient development of the individual, that they perform some function in the animal economy, no matter how obscure that function may be, we at the same time realize that when hypertrophied they introduce an element of danger that distinctly threatens the well-being and sometimes the life of the patient, and that it is our duty to relieve him of the onus of unnecessary risk.

INTERNAL SECRETION.*

By E. R. HOOPER, B.A., M.B.,
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In presenting these pages which antecedence has dignified with the title of President's address, I wish to refer to some investigations regarding Internal Secretions.

Medical advancement has been accomplished by degrees known as progress and crisis. In the latter may be classed those pivotal moves upon which subsequent action is based. In the warfare of medical science against disease and ignorance, the advance of the scouts and pioneers, revealing newer and stronger positions, discovering fresh sources of strength, retreating from untenable situations, is characteristic of crisis; the following up and seizing these situations by the rank and file is characteristic of progress.

Ambrose Pare's use of the ligature, Harvey's discovery of the circulation of the blood, Laennec's revelations of mediate auscultation, Metchnikoff's theory of leucocytosis, Jenner's teaching of artificial immunity, Morton's and Simpson's discovery of general anesthetics, Holmes' and Semelweiss' recognition of the true character and cause of septicemia in parturition, Lord Lister's advocacy of asepsis are outstanding examples of advance by crisis. No less important, however, is the elaboration of these ideas, the improvement of methods and technique, and the diffusion of this knowledge through medical and lay minds. Nor have these advances been made without great struggle and opposition, often from quarters least expected. It may add to our appreciation of past discoveries and improve our charity towards future ones, to realize the bitterness of criticism, the hostility of attitude, the unreasonableness of scrutiny, to which medical advancement has been subjected.

Semelweiss marked an advance by crisis, but lacked the temperament and strength of character to improve the situation by progress. To the skillful pen and keen intellect of Oliver Wendell Holmes is due the credit of establishing for puerperal sepsis its rightful cause.

The violent opposition he received from those in high as well as those in low positions, drew from his pen this reply:

* President's address, delivered before the Toronto Medical Society.

"My life shall be a challenge, not a truce!
This is my homage to mightier powers,
To ask my boldest question, undismayed
By muttered threats that some hysteric sense
Of wrong or insult will convulse the throne
Where wisdom reigns supreme; and if I err,
They all must err who have to feel their way
As bats that fly at noon; for what are we
But creatures of the night, dragged forth by day,
Who needs must stumble, and with stammering steps
Spell out their paths in syllables of pain?"

This, too, was the attitude of other pioneers of medicine, who have blazed a trail through the pathless forests of unexplained phenomena, who have swept aside the cobwebs of lethargy and indifference, and have brought the lamp of research to dispel the gloom of ignorance. The more intricate field of modern research has been made possible by the activity of the early investigators who have cleared the underbrush, and allowed subsequent students to overturn the soil of empiricism by the plow of rationalism tipped with the share of scientific accuracy and exactness.

The subject, "Internal Secretion," has been chosen not so much for the completeness in its consideration as for the possibilities in its problems; not so much for what it presents as for what it promises.

The subject, however, is an alluring one, and not the least so on account of the extreme difficulty attending the investigation of the character and quality of these secretions.

Cabot, in reviewing the analysis of urine at the Massachusetts General Hospital, and the post-mortem returns, finds that in acute glomerular nephritis there was some *discrepancy* between ante-mortem and post-mortem findings in 93 per cent., while in 75 per cent. the diagnosis of nephritis was not made at all during life. The kidney, moreover, is an organ which secretes abundant material, is the subject of constant study and investigation by thousands of laboratory workers, may be subjected to chemical, microscopical and bacteriological tests, and yet this degree of error is possible. How much greater difficulty surrounds the investigation of glands without a duct, whose secretions can be considered only in contemplation of symptoms produced by the pathology of the organ.

The glands, which are supposed to have an internal secretion, are the thymus, thyroid, pituitary, pancreas, suprarenal, ovary, testicle and less known carotid and coccygeal. Of these, the more important, thymus, thyroid, suprarenal and pituitary, are ductless.

The thymus and thyroid are relatively temporary, the former reaches its maximum size at two years and remains little changed till puberty, then rapidly atrophies. The age of function of the thyroid has been variously placed at from thirty to forty-six years of age.

Recent investigators call attention to the fact that the thymus gland is peculiar in that its structure possesses not only epithelial, but lymphoid tissue. The thyroid, adrenal and pituitary are types of epithelial gland.

Professor Rurah, of Baltimore, from a series of autopsies on infants dying of marasmus, not due to improper feeding or gastro-enteritis, found a reduction from the average weight of 12 grammes in the gland at birth to 2.2 grammes. From these studies Professor Rurah concludes that: (1) Atrophy of the thymus gland is always found in cases of infantile atrophy; (2) the condition of the thymus is an index of the general nutrition of the infant; (3) the state of nutrition in infants may be estimated by microscopical examinations of the thymus at the necropsy. The hypertrophy of the thymus, on the other hand, with prolonged persistence, is followed by sudden and unexpected death.

The pituitary, thyroid and adrenal have been grouped together by some investigators under the comprehensive term, adrenal system, because these glands have a close interdependence and an anatomical and functional relationship. Hitherto mention of disease of the pituitary body has suggested that hyper-nutrition of osseous and muscular structures associated with acromegaly. In a typical case of disease of the pituitary, the subject at death weighed 300 lbs. Heart was 2 lbs. 9 ounces, liver over 7 lbs. The inferior and superior maxillæ the clavicles and sternum were enormously enlarged. There was great kyphosis of spine and enlarged tarsus and carpus. Andriezen concluded that "the pituitary gland exercises a trophic action on the nerve tissues, which means enabling them to take up and assimilate oxygen from the blood stream, and to destroy and render innocuous the waste products of metabolism."

Tamburini, as a result of twenty-four autopsies in acromegaly, found exaggeration of the functions of the pituitary attended the first stage. "The excessive and often ravenous appetite, the thirst, polyuria, the full and hard pulse, cutaneous hyperesthesia, abnormal superficial heat, the typical muscular and osseous hyper-nutrition," all indicate excessive functional activity, the underlying factor we have seen of glycosuria. Sajous regards this organ as the governing centre of the

nervous system, meaning thereby the co-ordination centre of the vasomotor and cranial nerves.

The thyroid too, as well as the thymus, is relatively a temporary gland and degenerates with age. The severity of the symptoms following the removal of the thyroid varies inversely as the age of the subject. The immunity from post-operative myxedema has been variously placed between the age of 30 and 46. The action of this gland has proved a veritable will-o'-the-wisp in investigation. The employment of the extract of this gland in myxedema and its marvellous action was indeed a revelation of the possibilities of organotherapy. This condition of myxedema and criticism was, therefore, regarded as a diminished activity of the thyroid, thus lowering the oxidation processes. Over-activity of the thyroid, on the other hand, by surcharging the blood with this organ's internal secretion will over-stimulate the pituitary, and through it the adrenals, which thereby causes hyperoxidation, the symptom complex of exophthalmic goitre. This theory seemed to bring the explanation of thyroid phenomena within easy grasp, when the removal of these glands in different animals produced such a diversity of results that fresh questions were raised.

Why did removal of the gland in a carnivorous animal result in immediate death? Why did removal of glands in omnivora produce symptoms similar to myxedema in man, and only after a long interval—death? Why was removal in herbivora attended with comparatively insignificant results?

By the discovery of small structures associated with the thyroids and called parathyroid bodies, and so minute as to escape earlier attention, the previous theories vanished, and in the darkness that followed the explanation seemed as distant as ever.

It would now appear that the parathyroids themselves are responsible for the train of symptoms attributed to the removal of the thyroids. If the parathyroids of carnivora are dissected out and the thyroid left intact, the tremors, convulsions, etc., at once follow, while conversely no such symptoms develop if the thyroid is excised while the parathyroids are left. In spite of the diversity of views held regarding the parathyroids there seems to be a consensus of opinion that the gland has an internal secretion which neutralizes a toxic product in the blood. This product produces marked irritation of the muscular and nervous system manifest by tetanus and epileptiform convulsions.

Sajous considers that it is the oxidation factor that prevents the accumulation of the spasmogenic elements.

Verstraeten and Vanderlinden regard this poison as of gastro-intestinal origin, and both they and McCallum, of Johns Hopkins, diminished or abolished tetany by giving a milk or bread and water diet to parathyroidectomized dogs. Kishi, after carefully studying the blood of animals after thyroidectomy, found marked leucocytosis—38,000. He concluded that there was a toxic substance in the blood, probably a nucleo-proteid, which was taken up by the thyroid and destroyed. This toxic substance he believed to arise from the nuclei of meat cells taken into the body as food. The thyroid decomposes this substance into bodies harmless to the animal economy. The neutralization is performed, however, by the parathyroids, and not by the thyroids, as Kishi supposes. Nor does there seem to be any ground for supposing that the parathyroids assume the function of the thyroids. The lesson of modern experiments shows that these glands are quite distinct in function. Graves' disease, then, so far from being caused by enlargement of the thyroid, and this hypertrophied gland charging the blood with an excess of its own secretion, appears rather to be caused by a diminution or atrophy of the parathyroids. In a word, to remove the thyroid alone is to produce myxedema, to remove the parathyroids is to induce a condition similar to Graves' disease, and the very opposite of myxedema.

We may now consider the *pancreas* one of the most important glands as regards external and internal secretion. It has been but twenty years since Bouchardt noted the frequency of pancreatic lesions in persons dying from diabetes. Some four years later the experimental production of diabetes was instituted by von Mering and Minchowski, and followed later by many other investigators. The structures to which such vital changes are due, when diseased, are described by P. Langerhans. These peculiar bodies embedded in the pancreas, are composed of polygonal cells arranged in irregular columns, between which are wide, tortuous, anastomising capillaries. The cells are epithelial in type, and of same origin as ducts and acini, with which in an early period of development they are in continuity. The lumen of the ducts does not penetrate among the cells, and these, therefore, are not concerned in elaboration of pancreatic juice. These resemble the architecture of other ductless glands, as parathyroids, carotid and coccygeal glands, and less closely the pituitary and suprarenal. The intimate relation of the columns of epithelium to rich capillary network has suggested that they furnish some substance to the blood—the hypothetical internal secre-

tion of the pancreas. The experimental evidence of this is furnished by Ssobolen. It is remarkable that slight injury of the pancreas may produce diabetes and that extensive destruction may fail to produce such a result.

The test seems to rest as Opie has shown, not in the change in the pancreas, but the injury to the islands of Langerhans themselves. There are two types of interstitial inflammation affecting the developed pancreas. In the interlobular variety, the inflammatory process is localized at the periphery of the lobule, and implicates the island of Langerhans only when the sclerotic process has reached a very advanced stage.

In the inter-acinar pancreatitis the process is diffuse, invading the lobule and separating individual acini. The inflammatory change invades the island of Langerhans. This reminds us of another remarkable fact, that the security of the individual does not depend on the integrity of the whole pancreas. If one-quarter is left, this as surely and efficiently protects as does the whole pancreas.

It would seem as if the presence of even a very small quantity of secretion from the island of Langerhans were sufficient to stimulate some function of oxidation or combustion. Glycogen has been called the fuel of the body, stored not only in liver and muscle, but elsewhere, and the little islands of Langerhans, with minute quantities of secretion, are sufficient to start the combustion. W. H. Thompson refers to it in these terms: "The interesting researches of Otto Cohenheim show that an enzyme is produced in muscle which, if alone, does not act upon sugar, but when mixed with the secretion of the cells of Langerhans, becomes a very energetic solvent, in the same way that trypsin becomes effective only when joined with kinase ferment in the intestine. This muscle ferment is so energetic when mixed with juice of the pancreas that Cohenheim regards it as quite sufficient to account for the whole process of sugar combustion in the human body under ordinary conditions.

In the action of the adrenal glands, there has been a growing interest since 1855, when Addison, of Guy's Hospital, described a group of symptoms afterwards to be known as Addison's disease.

Interference with the function of this gland, whether by the fibro-caseous lesion of tuberculosis, simple atrophy or an affection of the abdominal sympathetic, produces, in Addison's words, "anemia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach and a peculiar change of color of skin." Whether this state is due to absence of a secretion from this gland or an affection of the

abdominal sympathetic, there is still some question. It is now known, however, and daily demonstrated that the suprarenal has an active principle which is able to produce symptoms the opposite of those which characterize Addison's disease.

Adrenalin, the internal secretion of suprarenal gland, is a definite chemical body, and in doses of 1-800 of a grain produces a pronounced arterial contraction. This contraction is due to action of the secretion not on the vasomotor nerves, but on the artery through the muscle of the middle coat. This action on muscle is universal, the striped and unstriped depending on this secretion for their healthy tone.

In 1895 Shafer produced some evidence to show the *helpful* effect of adrenalin in Addison's disease. From that date to the present, Prof. Thompson, of New York, has had a patient with Addison's disease under treatment with this extract who feels the loss when he fails to take it.

An observation, first recorded by Oliver, and one of great clinical significance, is the marked diminution in bulk of the kidney, as shown by Roy's oncometer, when suprarenal extract is used. The decrease in size to one-half produces, undoubtedly, changes in secretion and elimination of urea.

Wm. Hanna Thompson, who has watched for many years the investigations into the cause of high tension pulse in many conditions of kidney disease, feels convinced that the textural change in the artery is secondary to the tension, that the continued high tension of pulse in nephritis is due to a persistent excess of adrenalin in the blood. This excess, in turn, may be supposed to be occasioned by stimulation of the adrenals by the inflammatory irritation of the neighboring great glands, the kidneys, with which the adrenals are not only topically associated, but may be functionally so as well. The inference is certainly reasonable that a high tension pulse goes with a contracted kidney, and a contracted kidney is *pro tanto* incapable of a normal excretion of urea. If, therefore, the kidney is only functionally contracted, or partially so, from the action on it of some agent in the blood and not too far sclerosed, the administration of an efficient vaso-dilator ought to be followed by an increased excretion of urea. This was the argument, and a test was applied clinically with aconite as the vaso-dilator with the result that the urea excreted increased two, three and four times the amount previous to use of aconite. With the discontinuance of this drug the urea excretion returned to former low level. Along with this there is a like improvement in the other renal symptoms, such as disappearance of casts and of albumin and general rise in the

excretion of solids. This view is strengthened by the experiments of Jorsi, who produced in the course of two months, atheromatous changes in the aorta and large arteries of rabbits by repeated injections of adrenalin. The clinical experience of Dr. W. H. Thompson is so convincing, and the results are of such universal importance, that I have quoted fully from his work, in the hope that equally satisfactory results may be obtained by many others as the opportunity arises.

The cells in the pancreas which produce an internal secretion, are definitely grouped between the tubules, as the islands of Langerhans. The parathyroids appear to have to the thyroids a parallel relation that the islands of Langerhans have to the pancreas. It is believed that a similar relationship exists in the testicle.

The tubules are concerned in the manufacture of spermatozoa, but between these, in addition to connective tissue, framework and vessels, are small collections of cells whose comparatively abundant, finely granular cytoplasm distinguishes them from the stroma cells. To these interstitial cells are attributed the internal secretions of this organ and all the bodily effects consequent upon its production.

In an editorial the functions of the testicle are thus referred to: First, the production of a substance or stimulus that influences certain phases of development, particularly those related to sexual characteristics; that the testicles alone produce this stimulant is amply proved by the results of castration in youth. Second, the manufacture of spermatozoa; third, the production of some substance or stimulus essential to the production of the psychical manifestation of sexual activity.

The usual findings in the examinations of the testicles of cryptorchids, both of man and lower animals, is the absence of the seminal cells, but the presence of the interstitial cells—syncytial cells that lie at the base of the seminal cells. Such individuals develop normally and are possessed of all the attributes of virility, except the possibility of procreation. The ovary, too, had an internal secretion which, similar to the testicle, modifies nutrition. The absence of this secretion produces these nervous and sensory disturbances manifested by the heat flashes and flushes of the natural menopause.

The artificial menopause of oophorectomy with its precipitation of these grave nervous disturbances is familiar to all.

Time and the character of this paper have permitted me but very inadequately to refer to some phases of internal secretions. I have but touched the hem of the extensive subject.

Further researches promise new facts, and with more reliable information the solution of these difficult problems may be attained.

The intellects of centuries have been busy spinning from the experiences and observations of daily life the gossamer threads of knowledge which have been woven into the warp and woof of that fabric which to-day is presented as the finished product of medical achievement. The spirit of the laboratory is identical with the spirit of the clinic, compelling a sustained effort to unveil the mysteries of life and discover the main-springs of its action. It is the spirit of investigation whose voice, with undiminished persistence, repeats over and over as to Kipling's explorer:

"Something hidden, go and find it, go and look behind the ranges!
Something lost behind the ranges! Lost and waiting for you, go!"

PRESIDENT'S ADDRESS.*

By GEO. M. AYLSWORTH, M.D., COLLINGWOOD.

Gentlemen,—I would first feebly express my great appreciation of the honor you have conferred by electing me as your chief executive officer, when many younger and more active men were eligible; and then ask you to listen to some of my views (possibly heretical) upon the Relations of Medicine and Surgery.

When surgery is resorted to for relief or cure, it should be an evidence of the failure of medicine's milder measures. Until recently few would subject themselves or their dependents to mutilation, without pressing necessity, lest at some future date grape seeds might take the wrong turning or syphilitic virus escape the cleansing process. The enormous advances of surgery since Lister's propaganda have led to the serious proposal of such surgical interference with the handiwork of God or Nature.

Notwithstanding the brilliant results of recent surgery and the authorities who have said so many hard things regarding internal medication, the fact remains that approximately 95 per cent. of those seeking aid from the profession do not need surgical attention. Surely we have reached the lowest hades of therapeutic pessimism when a prominent Chicagoan can declare in a medical society without being suspended under the rules, we have no remedies that will influence the course of pneumonia. If this cannot be contradicted, in what kind of light must the public regard the rank and file of the profession into whose care such cases fall, and why are we not prosecuted for obtaining money under false pretences for collecting fees for the *treatment* of pneumonia after having once made the diagnosis?

When I was a student, Tanner, the Apostle of Expectancy, was the English writer on practice most in vogue. Although he told us such-and-such medicines might be used in various diseases, about the only clear-cut directions he gave were—confine the patient to bed in a large, well-ventilated room.

With such namby-pamby teachings to the fore, it is not to be wondered at that surgery, under the impetus given it by asepsis, should capture all the members of the profession who had facilities for the work.

These, at first, were few in number, and the work extremely

* Read at meeting of Collingwood District Medical Association.

remunerative, but as the facilities became diffused and the number of operators increased, it became much less so. As early as 1890, when I made one of a series of pilgrimages to New York in search of the latest surgical procedures, I became somewhat intimate with the chief of the out-door surgical clinic in one of the largest hospitals, who had spent many of the best years of his life perfecting his surgery. I spent a month watching him, his two assistants, and a nurse, from 9 a.m. to 1 p.m. each day, performing feats in minor surgery I have never seen equalled, and yet he freely admitted to me that he had great difficulty in maintaining himself, though unmarried. I was then suffering, as I had been for some years, from surgical fever, and can point to work that has perpetuated some lives until now that would have otherwise closed. But this gentleman's experience set all thinking, and when, in 1892, that prince in medicine, born in the south end of this county—Osler—published the first edition of his monumental work, "The Practice of Medicine," he cured my fever for surgery by convincing me that while pathological medicine had kept pace with surgery, therapeutics had been marking time for thirty years, or since the days of Tanner. I thought I saw the direction in which progress was needed and must be made, and thenceforward devoted the most of my energies to the study of therapeutic measures. Pathologists persistently asked what we knew about the action of drugs in disease, and the answer was not forthcoming. So that the long wait, backed by the insistence of great pathological and surgical authorities, constantly forced the therapeutic vessel towards a lee shore with apparently no line to windward.

The germ theory took possession of the whole medical mind, and the surgical section started in at once to utilize the theory by combating microbes, until now, instead of the surgeon having to attack them in their entrenched positions, he has excluded them from his field of work and the microbe has to make the attack. And when a town the size of Collingwood can exhibit such facilities for that work, as may be seen at the General and Marine Hospital, were it not for the element of human error we might pronounce the evil work of the microbe in surgery as a thing of the past. Surgery, however, has not reached its climax, for the heart, lungs, and brain remain to be exploited until all that may be removed and life continue may safely be taken away. The medical section was slower to appreciate the role germs play in disease, and has been less fortunate in the means used in opposing them in its field. This is not surprising, for antisepsis early evolved

the rule—make your incision large enough to enable you to see what you are doing; that is, don't work in the dark.

The surgical fight has been carried on against the microbes in the light, in plain sight outside the body; while in the medical section the fight has necessarily been attempted in the dark, out of sight within the body. Hence the latter's seeming failure, but medicine's golden day is dawning. Surgery's success is pointing the way for medicine, and as it has been estimated that 95 per cent. of the work offering the profession is open for study and rational experimentation by general practicers, and as their patience, persistence and mental acumen average well with those of surgeons, our progress towards therapeutic efficiency should be much more rapid than that of surgery in the past, and the undeserved reproach of collecting fees for useless attendance be promptly removed.

The time limit I have placed upon this paper precludes any general view of the advances in therapeutics occurring even now. But by selecting one disease—say, typhoid fever—an idea may be obtained of the marvellous advances in therapeutics soon to be at our disposal as general practicers in combating disease. When Tanner wrote, typhoid fever had already been differentiated from typhus by Jenner, its treatment by bleeding had been relegated to the limbo of undoubted errors, but the great mass of the profession still used the preliminary purge with calomel or blue mass, followed by black draught. Tanner's instructions which ultimately prevailed, were to confine the patient to bed in a well-ventilated room, give liquid diet, and time, the intestinal flux to be restrained by astringents, and other symptoms to be met as best we could. In college I was taught that purgatives given in typhoid fever might result in a justifiable action for mal-praxis. Believing then, what is now undisputed, that the intestines formed the gateway for the germs, I am one of the minority of practicers who persisted in using mercurials and laxatives in the disease, as a cleansing measure. I used them with fear and trembling because of the weight of authority opposed to them. I thought I often aborted attacks but had not the courage to make the claim, and even now hesitate. The results have been that though I have earnestly tried to remember, I am unable to recall more than two deaths from the disease occurring in my own practice.

In the meantime, advocates of the Brand method made vast claims for its success, but inasmuch as it was never claimed to be radical in its aim, but merely a remedial measure to abate a symptom, I have reserved it to meet hyperpyrexia.

Then Woodbridge and Thistle boldly advocated the adminis-

tration of salts throughout the disease. This was promptly followed by suggestions to use various drugs (carbolic acid, iodine, B. napthol, salicin preparations, etc,), as intestinal disinfectants, and thus destroy any bacilli that might remain. Prominent leaders of the profession opposed the idea on the ground that it was impossible to render the intestinal tract aseptic. In this they were consistent with their conservatism, which demands that they shall oppose any measure originating with the rank and file to a point where they become merely obstructionists.

The general practicers who compose the firing line have persisted until now the daily dose of sulphate of magnesia has become a routine, instead of a rational procedure for many in typhoid. Routine at all times is a disadvantage, but here is injurious, when it induces one to continue administering salines after their good results have been obtained. It seems to me next to impossible that any thoughtful physician is unable to see how rational the administration of purgatives in typhoid is, even though they deny the usefulness of antiseptics. The mere thought of the fetid mass occupying the intestines, forming a nidus for typhoid bacilli, which the expectationist insists shall not be disturbed for fear of hemorrhage and other dire consequences, should make it clear that these eminent authorities having eyes, ears, and noses either do not use them or fail to reason from the evidence of their senses. I respectfully submit that the bad effects of purgatives and disinfectants in typhoid are infinitely less than the bad effects of permitting the enormous expanse of intestinal mucous membrane, whose chief function is absorption, to macerate from day to day in concentrated filth an ideal home for the bacillus of typhoid.

Though I may have earned a reputation for being unorthodox, to which reputation this address may add, I have enough faith in the germ theory to believe that if the intestinal mucous membrane could be made surgically clean early in typhoid and then kept clean, the disease, as we know it, would become extinct.

But what are we to say of or about those eminent authorities who, because the ideal of surgical cleanliness cannot be obtained in the intestines as yet, sneer at the attempts of less prominent men to reach it in typhoid?

It is a relief to know that nothing need be said, therefore nothing will be said, of them, but in the light of results already obtained by the under-estimated general practitioners, the latter may wisely be urged to keep their faces to the sun and con-

tinue the struggle to reach the ideal treatment of typhoid, as well as other diseases.

The measures taken to empty and disinfect the intestinal tract must vary with the indications, and be left to the individual clinician, but the writer would express his preference for the C. P. sulphocarbolates for the latter purpose.

Now that medicine is adapting its therapeutics to the greatest etiological fact involved during the ages, and is stepping out into the light from beneath the shadow of surgery, there should be no envious bickerings, but each should emulate the other that the patrons of the profession may be quickly cured.

Gentlemen, as general practitioners of medicine, I en y you your youth and consequent opportunities.

A STUDY OF CHOREA MINOR.

WITH ANALYSIS OF 173 CASE REPORTS OF PATIENTS TREATED AT THE ROYAL VICTORIA HOSPITAL, MONTREAL.

By ROBERT KING, M.D., Montreal.

The various choreas and pseudochoreas are treated in myriads of articles in many languages. The accounts in text-books and systems of medicine are full and exact to the limit of modern knowledge. Chorea minor is sufficiently common and striking in its manifestations to attract early the attention of the medical student, and in his third year he is well read on the subject, and better satisfied with his knowledge of the affection than he may ever be again. Later he delves deeper and finds that the primary cause is unknown, that the pathology is disputed, and that the treatment is unsatisfactory.

It is with the chorea minor of Sydenham alone that this paper has to do, and no attempt at complete elucidation of the subject will be made. For a history of the evolution of our knowledge of the affection, and for its relation or rather lack of relation to the other choreas, the reader is referred to Dr. Osler's very complete monograph, published at Philadelphia in 1894, and from the same source, or from any modern work on medicine, may be obtained a systematic account of the disease. The object of this writing is, without attempting deduction or argument, to add in concise form to the mass of statistics already available, and the writer is satisfied to leave the interpretation thereof to the seers and prophets of medicine.

The list includes 119 ward cases with full reports, and 54 cases from the out-patient clinic in nervous diseases, necessarily incomplete. Results are given in percentages, and, for the most part, concern the ward cases only. An attempt has been made to eliminate errors by exclusion of variations evidently due to complications.

Chorea is of fairly frequent occurrence in Montreal. The hospital records show one case of chorea to three or four of acute rheumatism. An average of fifteen cases a year, about 1¾ per cent. of the medical cases, have been treated at the Royal Victoria Hospital since its foundation. Very young children are not often affected, or the movements pass unnoticed. There were no patients under four years of age: two were four; two, five. Holt, of New York, has not had a case under four years. In Osler's series of 522 cases, however, 18, or nearly 3 ½ per cent., were four years old or younger. Chorea may well be considered a disease of school

life, or at least of school age, 78.2 per cent. of the present series, over 84 per cent. of Osler's, and nearly 96 per cent. of Holt's cases occurring between the ages of 6 and 15. Ten patients in my series were over twenty years of age; the oldest was a machinist, aged twenty-seven. Osler had thirteen cases over twenty, and of these two were over forty years of age.

Nearly three-quarters of the cases, 73.2 per cent., were females: the preponderance, common to all ages, is vastly greater during the years of puberty. Seven-tenths, 69.2 per cent., were school children, and next in order came housework, with 16.6 per cent.; 84.5 per cent. were Canadian born.

The influence of season on the incidence of chorea is well established, and a chorea tracing for the year shows fairly constant fluctuations, varied probably by differences of weather and climate. Morris J. Lewis, of Philadelphia, has analyzed 717 separate attacks of chorea as regards month of onset, and I find that the curve of the Montreal cases agrees with his in form, and that the highest point in each is reached in March. Thereafter, however, while corresponding rises and falls occur, the months of occurrence do not correspond. Both show a slight fall in April, to rise again in Philadelphia cases in May, and in the Montreal cases in June and July. The lowest point in the Philadelphia series is reached in November, and in the Montreal series in December. The Montreal curve rises gradually through February; the Philadelphia tracing shoots abruptly to its highest point in March. The differences between the curves are less striking than their remarkable similarity.

The association of arthritis with chorea has long been recognized. An English writer, in 1802, gives rheumatism as a cause of chorea, and another, a little later, states that "chorea sometimes alternates with acute rheumatism." A French physician, in 1850, concludes, that of two rheumatic infants, one, at least, will be choreic, and of five choreic children, two are rheumatic. Another French writer of the same period states that articular rheumatism, chorea, and endocarditis are three terms of one and the same pathological state. The Collective Investigation of the British Medical Association shows that a little more than 22 per cent. of cases of chorea have a rheumatic history, and with this the largest collected American statistics closely agree. Jacobi strongly favors the view of the close relationship of the two affections, and Holt says that a large group of cases may be classed distinctly as rheumatic chorea. On the other hand, the earlier German writers and many Americans lay little stress on the occurrence of rheumatic pains

with chorea, and find the percentage of cases in which such association occurs very small. Steiner, of Prague, found only four instances of acute arthritis in 252 cases of chorea. Of 144 cases in which careful inquiries were personally made by Osler, 25, 17 per cent., had had articular pains or swellings, but only six of these had had acute inflammation of joints. In this connection Osler calls attention to the frequently mild character of articular manifestations of rheumatism in childhood, so that the disease may be entirely overlooked until attention is called to it by cardiac complications. Holt regards endocarditis occurring in chorea as a manifestation of rheumatism. The Royal Victoria Hospital reports class chorea among nervous diseases, but, in the wards, its association with the rheumatic group is recognized and emphasized both in teaching and treatment. Of the Montreal cases 22.6 per cent. gave a history of rheumatism, corresponding closely with the over 22 per cent. of the Collective Investigation of the British Medical Association. In 10.4 per cent. of the cases the attack of chorea was preceded by joint pains and swellings, which nearly always passed away when the choreic movements began. This alternation or, as it were, antagonism of chorea and arthritis, the tendency to become manifest at different times, has been recognized and especially insisted on by French writers. In 9.6 per cent. of the present series, however, the choreic attack was accompanied by rheumatic pains. Rheumatism followed chorea in some cases, but statistics from chorea reports in that regard would be misleading, as pains might develop after patients left the hospital cured of the chorea.

In regard to the other members of the rheumatic group, there was a history of tonsillitis in 12.2 per cent. of the cases, but tonsillitis as a complication was not more frequent than in other diseases. Endocarditis was alarmingly frequent: it was fairly well established in 69.6 per cent. of the cases and possible in six other cases. An apical, systolic murmur, transmitted toward the axilla and persistent on repeated examinations, was held, in doubtful cases, to indicate lesion of the mitral valve.

Osler states that there is no disease, not excepting rheumatism, with which endocarditis is so frequently associated. His examination of 140 cases, more than two years after an attack of chorea, showed in 72 signs of organic heart disease. Dana, on the other hand, in his series of 318 cases found endocarditis in 10 per cent. only. The endocarditis is almost invariably of the simple or warty form, but dangerous from the sclerotic changes likely to follow in the valves. The following case illustrates the serious nature of the heart lesions which may follow chorea:

MALIGNANT ENDOCARDITIS FOLLOWING CHOREA PARALYTICA.

J. B., female, aged 13. At five years of age this patient had subacute rheumatism, followed by chorea, and mitral regurgitation was found by Dr. Osler. There were, subsequently, two other mild attacks of chorea. There was no further rheumatism and no tonsillitis. The child appeared robust and was very fond of gymnastics. Her fatal illness began with weakness of the left arm and leg, with slight irregular movements. The condition was pronounced chorea paralytica by Dr. James Stewart. After a fortnight power gradually returned, but slight twitching movements were noticed for three weeks longer. During this time an attack of subacute rheumatism supervened; knees, ankles, and elbows were painful on movement and slightly swollen, but the temperature was never more than one degree above normal. The joint trouble gradually subsided, and had altogether disappeared, when the temperature took on a septic type with rigors, sweating, and weakness, rapidly progressive. A blood culture gave pure staphylococci. Patient died three weeks later. The diagnosis was malignant endocarditis, purpura hemorrhagica, acute nephritis, cerebral embolism.

Scarlet fever is placed with rheumatism by many writers as frequently preceding chorea; there are three such cases in this series. Chorea followed typhoid fever, mumps, and influenza in one case each.

For two-thirds of the cases no cause was assigned. The psychical element is evident from the frequency of fright, worry, or excitement as an inciting cause—15.7 per cent. of cases. There is very slight evidence in support of reflex irritation as a cause; eye-strain was associated in two cases, and pinworms in one. The influence of heredity and predisposition is well shown; 17.4 per cent. of the cases gave a family history of chorea, 26.1 per cent. of them rheumatism. Thirty-seven per cent. of the cases had previously had chorea; ten had had two previous attacks; eight, three; four, four; and six, several.

The left side was attacked more frequently than the right, contrary to rule but not to reason, for the left side in most people is less developed and less under control than the right. There were five cases of left hemichorea, three of right. In 28.7 per cent. of cases the left side was more affected, as compared with 22.6 for the right. In half the cases no difference between the two sides was noted. Weakness of the affected parts was mentioned in one-quarter, 24.4 per cent. of

the cases; one case of chorea paralytica occurred. Speech was affected in 30.4 per cent. of the cases. There were movements during sleep in 4.3 per cent.

Sensory disturbances occurred in 4.3 per cent. of the cases and were slight.

The superficial reflexes were increased in 11.3 per cent. of the cases; the knee jerk in 30.4 per cent.; the latter was diminished in three cases, and absent in one; in two cases the patellar reflex had the halting character said to be peculiar to chorea.

Irritability is mentioned as a feature in one-third of the cases. Two cases of chorea insaniens occurred; both recovered.

Chorea Insaniens: Recovery.

P.S., female, aged 17. This patient lived at home and was occupied with housework. She had had a former mild attack of chorea, but had not had rheumatism. There was a family history of chorea. A quarrel with a friend was given as an inciting cause of the present illness. The attack began with movements in the right hand, gradually becoming general. There was no mental disturbance for three weeks, then intensification of symptoms with sudden change of disposition. On admission patient was well nourished and of good color. There were constant general choreic movements. She would answer no questions, and resisted examination. The mental attitude was that of a spoiled child of three or four years. The reflexes were greatly increased. There was slight mitral leakage. For the first few days patient hardly slept at all. Later she developed well-marked hallucinations and delusions. At times she was violent. The movements continued during sleep, and she had involuntary passage of urine and feces. The highest temperature recorded was 101.4, with corresponding pulse and respirations. She was in the hospital a month and was discharged cured.

Chorea Insaniens with Hysterical Symptoms, and without Heart Lesion: Improvement.

B. S., female, aged 16. This patient had been nervous but healthy. She had not had rheumatism. It was first noticed that she became childish, irritable, and impatient. Stiffness of the right hand followed. She complained of a ball rising in her throat and choking her, and had attacks of crying and laughing. Two weeks later movements became general, and definite mania with delusions and hallucinations followed.

On admission patient was found fairly well nourished. She

was constantly in motion, tossing herself all over the bed. The heart was extremely irregular in rhythm, but otherwise appeared normal. The mental state was one of abnormal excitement. She held her scapula tightly in her hands, saying that the devils were tempting her to let it go, and that if she were to drop it they would run away with her. She stated that everything in the room looked blue. She cried spasmodically, and, if not restrained, would get out of bed, stagger a short distance, and fall in a heap on the floor. She usually answered questions asked her by her relatives. The knee-jerks were active. The attacks of mania continued during the time she was in the hospital, but there was marked improvement, and the choreic movements ceased. The heart did not become involved and the urine was always normal. She was removed by her friends and was lost sight of.

Except in the maniacal type, and in cases with complications, fluctuations of temperature in chorea are slight. The maximum temperature in uncomplicated cases was 101.4 deg.; the minimum, 95.3 deg. The average maximum was 99.4 deg.; the minimum, 97 deg.

Of complications, endocarditis, as already stated, was present in 69.6 per cent. of cases. Pericarditis was noted only once. Functional murmurs occurred in 13 per cent. of cases. Tonsillitis was not more common than among other patients; it occurred four times. Anemia is mentioned as a marked feature in 19.9 per cent. of the cases; it is of chlorotic type, and in three cases the hemoglobin finding was 55 per cent., 60 per cent., and 70 per cent. Skin eruptions, of which herpes was most frequent, were found in 11.3 per cent. of cases: a little less than half the rashes might be regarded as rheumatic. There was not definite acute nephritis in any case. Albumen was found in two cases and a trace of albumen in fifteen others. A few casts were found in five cases. Sugar was never found.

The following two cases are in the hospital at the time of the present writing. The first supports the view that chorea is an infectious disease allied to rheumatism; in the second the psychical and nervous elements are strongly emphasized.

Chorea with Subcutaneous Nodules.

B. W., female, aged 8. This patient was born in Germany and has only been eight months in Canada. She had tonsillitis three years ago and has had no other disease. The family history is good. The present illness began two months ago with otitis media, followed by joint pains and sore throat. Then

followed movements in the left arm, left leg, and face. Speech was affected. On admission, patient was well nourished. The heart showed mitral stenosis and regurgitation. There was soreness of the joints, and subcutaneous nodules, attached to underlying structures, but not to the skin. The nodules appeared with the onset of the joint pains, first about the ankles, then on the hands and head, in some places in chains, elsewhere irregularly. They remained about a fortnight, were never very hard, and were not tender. Very marked paresis of the left side developed after admission to the hospital; this now shows considerable improvement. There has been no mental disturbance.

Intractable Chorea with Impishness.

P. V., male, aged 14. This boy is small for his age, of fair nutrition, and not anemic. He is a tailor by trade. He had left hemichorea a year ago with marked psychical features. At present there are general movements, somewhat lessened by effort. Patient can hold a glass and drink from it fairly well. There is mitral leakage. The reflexes are active. Patient is very emotional and impish in his actions. He cries and at times causes much disturbance in the ward. He plays pranks, and is a trouble to the nurses and an annoyance to other patients. Improvement is slow.

As regards prognosis in chorea, over 70 per cent. of the ward cases were discharged cured; 26.1 per cent. were improved. Two patients died, both from complications. The average duration of the disease, for 70 cases, was 87 days; the average stay in the wards, for 113 cases, was 37 days.

Treatment.—In the wards 70 per cent. of the cases were cured; 26 per cent. improved. In the out-patient department one was marked cured to seven improved. Allowing for the imperfection of out-patient records, the influence of rest and isolation from friends is evident. It does not appear that there is danger to other children from association with choreics. In one report it is stated that a convalescent choreic again developed movements when another choreic in the acute stage was placed near him in the ward. There is no record of any other patient having been affected in any way by the proximity of a choreic. In 8.7 per cent. of the cases no medicine was used, but these were mild cases. Of drugs, arsenic was given in 75.7 per cent. of the ward, and 68 per cent. of the out-patient cases. Of late, in recognition of the frequent association of arthritis, sodium salicylate has been frequently used.

The comparatively small number of cases, 9.6 per cent., so treated, and the uncertain course of the disease would render comparison at present misleading, but it cannot be said that in any case marked improvement followed its use. Iron was used in a few of the ward cases, and in 24 per cent. of the out-patient cases. In one case apomorphine was found to quiet the patient when the more usual forms of treatment had failed.

In conclusion, the following statements are suggested for consideration:

1. Chorea minor is a functional nervous disturbance of unknown origin.

2. In many cases it shows evidences of infectious character, and of close association with rheumatism.

3. Heart lesions occur frequently and often seriously affect the prognosis.

4. Medicinal treatment is uncertain; early diagnosis and prevention of recurrence important.

FATAL CASE OF VERONAL POISONING.

By T. S. FARNCOMB, M.D., M.R.C.S. (Eng.), L.R.C.P. (Lond.).

As I have not seen any published report of poisoning by veronal in the Canadian journals, I thought, perhaps, a case which has just occurred in my practice might be of interest. On Saturday, October 28th, six p.m., I was called to see Mr. D. E. C., when his wife gave me the following history:

Some two months ago he consulted a physician for insomnia, who gave him some veronal powders. Shortly afterwards, while away on a visit, he, having used all the powders, procured two boxes of veronal, each containing one ounce, which he measured for himself. On Saturday morning, October 28th, he took a dose and lay down, saying that he had had no sleep on the previous night. At noon he was very drowsy and was roused with difficulty. Mrs. C. had to be away during the whole afternoon, and Mr. C. was alone in the house with a little boy, seven years old. On her return, shortly before six, she found Mr. C. unconscious, and the boy told her he had taken another dose of the medicine early in the afternoon. When I arrived he was absolutely unconscious, and it was impossible to rouse him in any way. The temperature was normal, pulse 72, respirations 18, breathing rather deep, but not stertorous, pupils normal in size and reacting perfectly to

light, conjunctival reflex normal, the muscles acted very strongly and spasmodically to electrical stimulation, but this did not rouse the patient in the least from his stupor. Drs. Kidd and Farley were called in consultation. He swallowed perfectly anything that was given him.

October 29th, 5.30 a.m.: Patient could be slightly roused, and said a few words intelligently, but with eyes closed; temp. 99 2-5, pulse 100, respirations 32.

9.30 a.m.: Temp. 101, pulse 110, respirations 32; patient again completely unconscious. Condition continued practically the same all day, except that the temperature rose to 102. A peculiar feature was that, on passing a catheter, no urine was voided, it having to be forcibly expelled by external pressure over the bladder.

Monday, October 30th: Very little change, except that the patient was much weaker. Temp. 101 to 102; pulse 120 to 140; respirations 38 to 42, and more stertorous in character; patient still absolutely unconscious and not swallowing as well.

Tuesday, October 31st: Patient very low; temp. 102 to 103; pulse 160 to 180; respirations 42 to 48; considerable mucus collecting in the throat; commencing consolidation at base of right lung; patient unable to swallow anything. At 11 p.m. the whole right base was solid, and temperature 104. From this time the temperature rose steadily at the rate of 1-5 a degree every half hour until it reached 107 1-5 in the axilla. The patient died at 5.45 a.m., November 1st, without rousing from his stupor in any way.

Trenton, November 4th.

BRITISH MEDICAL ASSOCIATION.

Patron: His Majesty King Edward VII, K.G., F.R.C.P., F.R.C.S.

The seventy-fourth annual meeting will be held at Toronto, Canada, on Tuesday, Wednesday, Thursday, Friday and Saturday, August 21st, 22nd, 23rd, 24th and 25th, 1906.

Programme.

President.—George Cooper Franklin, F.R.C.S. (Eng.), L.R.C.P. (Lond.), Surgeon, Leicester Infirmary, Leicester.

President-elect.—Richard Andrews Reeve, B.A., M.D., LL.D., Dean of University of Toronto Faculty of Medicine.

Chairman of Council.—Henry Wm. Langley Browne, M.D., Ch.B., F.R.C.S.E., Consulting Surgeon, West Bromwich District Hospital.

Treasurer.—Hy. Radcliffe Crocker, M.D., F.R.C.P., Physician Skin Department, University College Hospital, London.

An address in Medicine will be delivered by James Barr, M.D., F.R.C.P., F.R.S.E.

An address in Surgery will be delivered by Sir Victor Horsley, F.R.C.S., F.R.S.

An address in Obstetrics will be delivered.

The scientific business of the meeting will be conducted in twelve sections, as follows:

Anatomy and Physiology.—President: Professor Bertram Coghill Alan Windle, M.D., F.R.S., Cork. Vice-Presidents: Dr. A. B. Macallum, Toronto; Dr. Alex. Primrose, Toronto; Dr. J. Wesley Mills, Montreal; William Frederick Haslam, F.R.C.S., Birmingham. Hon. Secretaries: Dr. C. B. Shuttleworth, Toronto; Dr. Gawnshaw Cleland, Toronto; William Barnet Warrington, M.D., 69 Rodney Street, Liverpool.

Dermatology.—President: Norman Walker, M.D., Edinburgh. Vice-Presidents: Dr. Graham Chambers, Toronto; Dr. Harry B. Anderson, Toronto; Dr. James Galloway, London; Ernest Solly, M.B., Harrowgate. Hon. Secretaries: Dr. D. King Smith, Toronto; Dr. Donald MacGillivray, Toronto; John Campbell Rankin, M.B., 38 University Road, Belfast.

Laryngology and Otology.—President: J. Dundas Grant, M.D., London. Vice-Presidents: Dr. George R. McDonagh, Toronto; Dr. H. S. Birkett, Montreal; John Macintyre, M.B., Glasgow; Hugh Edward Jones, M.R.C.S., Liverpool. Hon. Secretaries: Dr. David James Gibb Wishart, Toronto; Dr. Geoffrey Boyd, Toronto; Francis James Steward, M.S., 133 Harley Street, London.

Medicine.—President: Sir Thomas Barlow, Bart., K.C.V.O., M.D., London. Vice-Presidents: Dr. Alex. McPhedran, Toronto; Dr. James Stewart, Montreal; Alex. Napier, M.D., Glasgow;

Wm. Calwell, M.D., Belfast. Hon. Secretaries: Dr. Robert D. Rudolf, Toronto; Dr. John Taylor Fotheringham, Toronto; Robert Hutchison, M.D., 22 Queen Anne Street, London, W.

Obstetrics and Gynecology.—President: A. H. Freeland Barbour, M.D., Edinburgh. Vice-Presidents: Dr. J. Algernon Temple, Toronto; Dr. Adam H. Wright, Toronto; Dr. Wm. Gardner, Montreal; T. Arthur Helme, M.D., Manchester. Hon. Secretaries: Dr. Frederick Fenton, Toronto; Dr. Kennedy C. McIlwraith, Toronto; Dr. Cuthbert Lockyer, 117a Harley Street, London, W.

Ophthalmology.—President: Robert Marcus Gunn, F.R.C.S., London. Vice-Presidents: Dr. Geo. Herbert Burnham, Toronto; Dr. John W. Stirling, Montreal; Joseph Nelson, M.D., Belfast; Arnold Lawson, F.R.C.S., London. Hon. Secretaries: Dr. James M. MacCallum, Toronto; Dr. Duncan McLennan, Toronto; Frank Pearson Sheffington Cresswell, M.B., Cardiff.

Pediatrics.—President: George Alexander Sutherland, M.D., London. Vice-Presidents: Dr. H. T. Machell, Toronto; Dr. Allen M. Baines, Toronto; Otto Jackson Kauffmann, M.D., Birmingham; Donald John Armour, F.R.C.S., London. Hon. Secretaries: Dr. G. Stanley Ryerson, Toronto; Dr. Joseph S. A. Graham, Toronto; Ralph Vincent, M.D., 1 Harley Street, London, W.

Pathology and Bacteriology.—President: Professor J. G. Adami, M.D., F.R.S., Montreal. Vice-Presidents: Dr. J. J. Mackenzie, Toronto; Dr. W. T. Connell, Kingston; Dr. Ingersoll Olmsted, Hamilton; Professor Robert Fraser Calder Leith, M.B., Birmingham. Hon. Secretaries: Dr. Gideon Silverthorn, Toronto; Dr. Harold C. Parsons, Toronto; Charles Powell White, M.D., London.

Psychology.—President: Wm. Julius Mickle, M.D., London. Vice-Presidents: Dr. N. H. Beemer, Toronto; Dr. Charles K. Clarke, Toronto; Chas. Caldecott, M.B., Redhill; Landell Rose Oswald, M.B., Gartnavel. Hon. Secretaries: Dr. A. T. Hobbs, Guelph; Dr. Goldwin Howland, Toronto; William Frederick Farquharson, M.D., Garlands, Carlisle.

State Medicine.—President: Dr. F. Montizambert, Ottawa. Vice-Presidents: Dr. Charles Sheard, Toronto; Dr. Peter H. Bryce, Ottawa; Hon. Dr. Pyne, Toronto; Sydney Monckton Copeman, M.D, F.R.S., London. Hon. Secretaries: Dr. J. Langrill, Hamilton; Herbert Timbrell Bulstrode, M.D., London.

Surgery.—President: Professor Irving H. Cameron, Toronto. Vice-Presidents: Dr. Fred LeM. Grasett, Toronto; Dr. Francis J. Shepherd, Montreal; Dr. A. B. Atherton, Fredericton, N.B.; Dr. T. K. Holmes, Chatham, Ontario. Hon. Secretaries: Dr. H. A. Beatty, Toronto; Dr. Frederick C. Marlow, Toronto; Sinclair White, F.R.C.S., Ranmoor, Sheffield.

Therapeutics.—President: Professor David W. Finlay, M.D.,

LL.D., Aberdeen. Vice-Presidents: Dr. John L. Davison Toronto; Dr. A. B. Blackader, Montreal; Sir Alan Reeve Nanby, C.V.O., M.D., East Rudham; Professor J. Rose Bradford, M.D., F.R.S., London. Hon. Secretaries: Dr. V. Henderson, Toronto; Dr. C. P. Lusk, Toronto.

Honorary Local Secretaries.—Dr. F. N. G. Starr, Medical Laboratories, Toronto; Dr. J. J. Mackenzie, the Medical Laboratories, Toronto; Dr. D. J. Gibb Wishart, the Medical Laboratories, Toronto.

Committee Pathological Museum.—Dr. J. J. Mackenzie Toronto, Chairman; Dr. Maud Abbott, Montreal, Secretary; Dr. Gordon Bell, Winnipeg; Dr. W. T. Connell, Kingston; Dr. A. R. Gordon, Toronto; Dr. J. A. McGregor, London, Ontario.

Exhibition Committee.—Dr. Arthur Jukes Johnson, Toronto, Chairman; Dr. T. D. Archibald, Toronto, and Dr. W. A. Young, Toronto, Secretaries.

Honorary Local Treasurer.—Dr. J. F. W. Ross, Toronto.

Toronto Arrangements Committee.—Dr. Geo. A. Bingham, 68 Isabella Street, Toronto; Dr. C. J. C. O. Hastings, 258 Wellesley Street, Toronto; Dr. A. A. Macdonald, Bloor Street West, Toronto; Dr. J. J. Mackenzie, Medical Laboratories, Toronto; Dr. Alex. McPhedran, 151 Bloor Street West, Toronto; Dr. R. B. Nevitt, Bloor Street West, Toronto; Dr. R. A. Reeve, President-elect, 48 Bloor Street East, Toronto; Dr. F. N. G. Starr, 112 College Street, Toronto; Dr. J. Algernon Temple, 333 Bloor Street West, Toronto; Dr. D. J. Gibb Wishart, 47 Grosvenor Street, Toronto.

Reception Sub-Committee.—Chairman: Dr. I. H. Cameron. Secretaries: Drs. A. Primrose and W. F. Clarke. Drs. N. H. Beemer, G. H. Burnham, W. Harley Smith, W. Britton, R. A. Stevenson, J. T. Gilmour, K. Clarke, A. D. Macallum, Dr. Price-Brown.

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Excursion Sub-Committee.—Chairman: Dr. N. A. Powell, Secretaries: Dr. C. P. Lusk, Dr. W. H. Pepler. Drs. C. J. Wagner, W. J. Wilson, A. O. Hastings, H. A. Bruce, G. R. McDonagh, W. J. McCollum, J. O. Orr, J. W. Peaker, C. Gilmour, M. McKenzie.

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Local Entertainments Sub-Committee.—Chairman: Dr. H. Crawford Scadding. Secretary: Dr. H. S. Hutchison. Drs. J. L. Davison, J. J. Palmer, A. H. Garratt, Allan Shore, J. N. Henwood, B. E. Hawke, J. D. Thorburn, Wm. Oldright, G. S. Ryerson, W. McKeown.

Hotels and Lodgings Sub-Committee.—Chairman: Dr. H. T. Machell. Secretary: F. A. Clarkson. Drs. H. J. Hamilton, A. C. Hendrick, G. B. Smith, J. H. Rowan, G. H. Carveth, S. Johnston, E. A. McCullough, R. J. Wilson, J. S. Hart, R. Griffith, E. H. Greene, C. R. Sneath, C. A. Hodgetts.

Membership Sub-Committee.—Chairman: Dr. R. W. Bruce Smith. Secretaries: Drs. W. H. Cronyn (Rosedale), G. E. Smith. Drs. W. B. Thistle, C. O'Reilly, S. Johnston, D. H. Anderson, James Caven, T. A. Todd, Thos. Wylie, Paul Scott, Helen MacMurchy.

Corresponding Members of the Membership Sub-Committee.—British Columbia: Dr. O. M. Jones, Victoria; Dr. S. J. Tunstell, Vancouver. Saskatchewan: Dr. W. D. Ferris, Edmonton. Alberta: Dr. J. D. Lafferty, Calgary. Manitoba: Dr. F. R. England, Winnipeg; Dr. R. S. Thornton, Deloraine. Quebec: Dr. John MacCrae, McGill College, Montreal; Dr. A. Marois, Quebec. New Brunswick: Dr. Murray Macfarer, St. John. Nova Scotia: Dr. John Stewart, Halifax. Prince Edward Island: Dr. Jenkins, Charlottetown. Ontario: Dr. Forbes Godfrey, Mimico; Dr. W. S. Bond, Eglinton; Dr. A. H. Perfect, Toronto Junction; Dr. W. J. Charlton, Weston; Dr. W. Walters, East Toronto. Ottawa. Dr. R. W. Powell. London: Dr. H. A. MacCallum. Kingston: Dr. James Third. Hamilton: Dr. A. E. Malloch. Brantford: J. A. Marquis. Peterboro': Dr. T. C. Neal. Woodstock: Dr. A. B. Welford. St. Catharines: Dr. W. Ratcliffe. Niagara Falls: E. T. Kellam. Paris: Dr. W. Burt. Sault Ste. Marie: R. J. Gibson. Owen Sound: T. H. Middlebro. Collingwood: J. L. Bray. Midland: R. Raikes. Belleville: W. J. Gibson. Orillia: W. Gilchrist.

Editorials.

CARE OF THE FEEBLE-MINDED.

At a session of the Conference on Charities and Correction, at the Normal School, Toronto, November 14th, a discussion took place on the work of the associated charities in relieving the deserving poor. At the same session Dr. Helen MacMurchy delivered an address on "The Care of the Feeble-Minded." She pointed out the fact that the number of mentally defective was increasing, and that institutions so far established failed to reach the milder classes, which really called for special attention, because those included under this class enjoyed the same freedom as healthy members of the community, and that their tendency to over-breeding added materially to the mentally defective.

It was desirable that homes adapted to the various grades among the mentally defective should be established. Among the most fruitful causes of such conditions were low morality, deficient nutrition in early life, tuberculosis, alcoholism and the employment of married women in factories.

The records of insanity and the statistics of maternity homes were in many respects startling. She reported one case where a patient entered the maternity hospital for her ninth child, and the superintendent reported that the eight other children were all mentally defective. With proper organization the Government would have stepped in at the first and prevented the addition to its population of the other eight children. It was a matter of economy, as experience proved that $100 expended in one generation saved at least $1,000 in the next.

THE OLD GENERAL HOSPITAL OF TORONTO.

The hospital trust is at present negotiating with the Government regarding a new Board to be established, and over matters in connection with the management of the new hospital, which is shortly to be erected.

We learn from an interesting historical memorandum, issued by the trustees, that in the early survey of York, 399 acres of land were set apart by the Crown for the purpose of a general hospital. At the close of the War of 1812 the sum of $20,000 was given to the Hospital Board by the Royal and Patriotic Society which had been organized to provide for the widows and orphans of those who had fallen. The first hospital was built in 1819, on a block of land lying between King, Adelaide, John and Peter Streets. Owing to the burning of the Parliament Buildings in 1824, the Government occupied the hospital. In 1829 it reverted to its original purpose, and was opened for the reception of patients.

When it was found about twenty years afterwards that land in this vicinity was becoming very valuable, the old hospital property was sold, and the present site on Gerrard Street was acquired, and a new hospital was erected and opened in 1854. In August, 1868, the hospital was closed on account of lack of funds to carry it on, but was reopened in August, 1869.

All the land originally given by the Crown has been sold in order to provide buildings and equipment, with the exception of certain small and valuable properties in different parts of the city, which are still held by the trustees, and the rentals are applied towards the maintenance of the hospital.

THE LODGE DOCTOR.

We learn from one of the Peterborough newspapers that an interesting event occurred in that town at the regular meeting of the Lansdowne Lodge, S. O. E., when Dr. Young, the lodge physician, was presented with a gold ring in recognition of his services, and especially of the stand which he took in the Medical Association, when the proposal was made to abolish lodge practice. The following address was read at the same time: "Dear Sir and Brother,—We, the physicians and members of Lansdowne Lodge, Sons of England, wish to express our gratitude to you for the kind attention, and for the consideration which you have shown to the members and to the lodge as a body during the time you have held the office as lodge

physician, and particularly during the last few months, when if it had not been for the stand taken by you, we, as well as other societies of like character, should have been deprived of the services of a lodge physician, and the great work for which we are banded together would have been greatly hindered, and we as members put to much inconvenience." This address was signed on behalf of the lodge by two of its members. Dr. Young, in acknowledging the gift, thanked the donors for the honor which they had done him, and expressed his deep appreciation of the kindness of his fellow-fraternalists. This is an example of what has so frequently happened in this country, when physicians have endeavored, by banding together, to do away with lodge contract practice. While we have to acknowledge that, according to the customs which prevail both in the older countries and on this continent, lodge practice should not be considered disreputable, still we agree with the majority in thinking it would be better for both the public and the profession if it were abolished.

VERONAL POISONING.

The report in this issue of a case of fatal poisoning by veronal comes as a surprise, if not a shock, to those who considered this drug harmless. Dr. Farncomb, in a private letter, expresses the opinion that druggists should be prohibited from selling any such drug in bulk to the laity. We certainly concur and believe, at the same time, that the laws of Ontario place restrictions on the sales of poisonous drugs, which should cover such a case as this.

Veronal is one of the compounds of alcohol with urea, of which the most commonly known is urethane (ethyl carbonate). We learn from Sir Lauder Brunton that veronal is a diethyl-malonyl-urea, which in doses of 7 to 15 grains appears to produce refreshing sleep. In the discussion which followed the reading of Brunton's paper at the last meeting of the British Medical Association, the opinion was expressed that veronal was both useful and harmless as a hypnotic. Numerous favorable opinions as to this drug have been published in Germany

Holland, England and the United States during the last two years. We are told by Massey and Drappur that patients have taken up to 135 grains in one dose without exhibiting alarming symptoms.

It is stated that its hypnotic effect is due to its paralyzing influence upon the central nervous system, which in the case of small doses manifests itself by a deep sleep, and with large doses by prostration. We had formed a high opinion of the drug as an effective hypnotic, which in small doses was safe even in cases of cardiac insufficiency, phthisis, and renal affections. Dr. Arthur Wright gave two doses of 15 grains each in one night to an athlete who was suffering seriously from an injury received on the football field. This is the largest dosage we have known in Toronto. It is to be hoped, however, that we shall all learn from Dr. Farncomb's report that in large doses veronal causes great prostration and sometimes death.

INTERNATIONAL MEDICAL CONGRESS.

The Fifteenth International Medical Congress will assemble at Lisbon, Portugal, during the week from the 19th to the 26th of April, 1906. The official language of the Congress will be French, but in the general sessions as well as in the meeting of sections, in addition to French, English and German will be made use of. There will be in all seventeen sections.

The Secretary-General is Professor Miguel Bombarda, of Lisbon, to whom all communications regarding the reading of papers may be addressed.

Most of the countries will be fully represented at the Congress through national committees. For the United States Dr. John H. Musser, of Philadelphia, is President, and Dr. Raymon Guiteras, New York, is Secretary.

The Executive Committee of the Canadian Medical Association has appointed Dr. A. McPhedran, Toronto, as President, and Dr. W. H. B. Aikins, Toronto, as Secretary for Canada, to act in conjunction with the International Committees of the Congress.

Physicians resident in Canada who expect to attend this Con-

gress should put themselves in communication as soon as possible with either of the above named. "To travel in Portugal, a knowledge of French is preferable to that of other languages," so writes Prof. Bombarda, but he adds that it is the intention, however, to render everything easy for the visiting physicians, so that they may fully profit by attendance at the Congress.

Under the business management of Messrs. Thomas Cook & Son, two trips are being arranged for. The first provides for a direct trip from New York, leaving Saturday, April 7th, by North German Lloyds S. S. for Gibraltar, with a short visit there and also at Seville, in addition to the stay in Lisbon during the session of the Congress.

The second trip is for the party to leave New York by the S. S. "Barbarossa," on Saturday, 31st March, due to arrive at Gibraltar on Monday, April 9th, with visits to Tangier, Granada, Cordova, and Seville, arriving at Lisbon on Thursday, April 19th, and after the Congress by way of Madrid and Barcelona to Paris and New York.

We understand that the delegates who attended the last Congress in Madrid, with Cook's personally conducted party, had an excellent service. Among those going from the United States are Drs. McMurtry, Senn, Griffith, Vander Veer, Mathews, Murphy, Wood Fassett, Morris, Hughes, Turck, Guiteras, and several others.

Personals.

Dr. J. W. Lord has commenced practice at Davidson, Sask.

Dr. P. H. Bright, formerly of Wiarton, has removed to Drayton.

Dr. W. G. Rieve, formerly of Huntsville, is now practicing at Arthur.

Dr. James Webb, formerly of Sault Ste. Marie, has removed to Niagara Falls.

Dr. W. J. Boynton, formerly of Cannington, is now practicing in Pefferlaw.

Dr. W. A. Sargent, formerly of Springbrook, is now practicing in Coldbrook.

Dr. Forest, of Toronto, has removed from Parliament Street to 660 Markham Street.

Dr. E. C. Beer, of Brandon, Man., was married to Miss McWater, September 21st.

Dr. J. A. Duncan, who practiced for a short time in North Dakota, has settled in Elora.

Dr. W. L. Coulthard, formerly of Rossland, B.C., has removed to Vancouver, B.C.

Dr. Norman McLeod visited friends on Crescent Road about the middle of November.

It is announced that Dr. Donald McGillivray, of Toronto, is engaged to be married to Miss Helen Nelson.

Dr. H. R. Elliott, having formed a partnership with Dr. J. Crawford, is now practicing at Niagara Falls.

Dr. Ambrose Stanton has been chosen Senior House Surgeon for the Greenwich Hospital, London, England.

Mr. A. A. Beemer, son of Dr. N. H. Beemer, Mimico, was married October 25th, to Miss Muirhead, of Toronto.

Dr. J. W. Bruce Smith, of Toronto, has been elected president of the Toronto Society of Associated Charities.

Dr. D. P. Kapelle, of Hamilton, is now taking a post-graduate course at Johns Hopkins Hospital, Baltimore.

Dr. S. P. May has retired from the position of Provincial Inspector of Libraries, after holding that office for thirty years.

Dr. J. T. Duncan, of Bloor Street East, has recovered from his recent severe illness and is again attending to practice.

Dr. Brefney O'Reilly, surgeon to the SS. *Ifafa,* was at Delagoa Bay, Africa, October 2nd, and expected to reach London about November 20th.

Dr. W. J. Bell, who was surgeon of the C. P. R. SS. *Empress of India,* for nearly three years, has retired, and is now engaged in private practice.

Dr. Charles O'Reilly, of Toronto, after visiting Dublin and various cities in the south of England, is now in London, and expects to return home about the last of December.

Dr. George W. Badgerow, after over two years a resident medical officer of the Throat Hospital, Golden Square, London, Eng., has resigned and will return to Toronto early in December.

Mr. J. W. Flavelle, Rev. Canon Cody, Rev. Bruce Macdonald and Mr. Colquhoun, of the University of Toronto Commission, visited the Chicago, Ann Arbor and Wisconsin universities about the middle of October.

Rev. Andrew S. Grant, M.D., of the Yukon, who has for years been engaged in missionary work in the far North, as well as medical work in the General Hospital at Dawson, has a six months' leave of absence, and is now visiting friends in Ontario.

Dr. W. B. Thistle, of Toronto, was married October 25th, to Miss Hazel Wright, niece of Mrs. Jno. S. Willison. After a trip of three weeks to the cities of Washington, Philadelphia and New York, Dr. and Mrs. Thistle returned to Toronto, and are living at 171 College Street.

The following have been appointed coroners: Dr. Hy. H. Mcorehouse, of Toronto, for Toronto; Dr. Jno. A. Macdonald, of Markham, for York; Dr. James B. Coleridge, of Ingersoll, for Oxford and Middlesex; Dr. Austin H. Speers, of Burlington, for Halton; Dr. Peter B. McGibbon, of Bracebridge, for Muskoka; Dr. Arthur E. Ranney, of North Bay, for Nipissing.

Dec. 1905

Obituary.

JAMES HERBERT AUSTIN, M.D.

Dr. Austin, of Toronto, died at his home, 129 Bedford Road, November 5th. He graduated from the University of Toronto, and also from the University of Trinity College, in 1893, and took the double qualification of M.R.C.S., Eng., and L.R.C.P., Lond., in 1894. In the latter year he contracted pneumonia, after which he suffered from fibroid phthisis up to the time of his death. He visited California about ten years ago, and then settled in Dryden, Texas. After practicing there he returned to Canada and was incapacitated for work for some years before his death. He was possessed of admirable qualities, and was highly respected by all who knew him,

THOMAS CLARKE, M.D.

Dr. Clarke, a well-known physician of St. Catharines, died suddenly of apoplexy, Nov. 5th, aged 76. He was very active for many years as a physician, and also took a keen interest in public matters. Several years ago he contested Lincoln County unsuccessfully in the Conservative interest against the late James Norris.

WM. E. SMITH, M.D.

Dr. Smith, of St. Thomas, Surgeon to the Michigan Central R. R. (Canadian Division) for 28 years, died Nov. 8th, aged 68. He was graduated from Victoria University in 1863.

HERMON LEVI COOK, M.D.

Dr. Hermon Cook, of Toronto, died of pneumonia Nov. 16th, aged 74. He practiced at one time in Brighton Village. and then removed to Napanee. He gave up the practice of medicine about 23 years ago and engaged in life insurance business. He was graduated from McGill University in 1854.

Leslie, the two-year-old daughter of Dr. T. F. McMahon, of Toronto, was killed Nov. 10th by a piece of furniture which she pulled over.

Mrs. Heggie, wife of Dr. David Heggie, of Brampton, and mother of Dr. W. C. Heggie, of Toronto, Dr. Norman Heggie, of Florida, and Dr. D. L. Heggie, of Brampton, died suddenly Nov. 20th, aged 60.

ITEMS.

The Toronto Home for Incurables is now known as the Toronto Hospital for Incurable Diseases. The change in name was made in order that the institution might participate in the distribution of the Provincial Government grant to hospitals.

Miss Paton, superintendent of Grace Hospital, Toronto, has adopted certain suggestions made by the American Society of Superintendents of Training-Schools for Nurses, in consequence of which a nurse's time will be divided as follows: Eight hours of practical work in the wards, eight hours for sleep and recreation, and eight hours for study.

The authorities of the Toronto General Hospital are creating a new ward out of the residence of the former Medical Superintendent, Dr. O'Reilly. This ward, when equipped, will be devoted to the treatment of patients suffering from nervous trouble. Provision has also been made for attendance on patients suffering from pulmonary tuberculosis who come to the Out-Patient Department daily for treatment. Miss Mitchell has been detailed as a special nurse to visit the homes of such patients and teach the families how to care for them. This excellent arrangement has been made possible on account of two gifts of $500 each from Mr. W. J. Haney, one of the trustees, and another gentleman well known for his work among the poor sick of Toronto.

The first regular meeting of the Collingwood District Medical Association was held in the Council Chamber, Collingwood, on October 24th, 1905, and was a decided success, not only in point of number of members being present, but also the interest taken in the discussion of the papers presented. The programme consisted of: The Presidential address, Dr. Aylsworth, Collingwood; "History of a Case of Pyosalpinx," Dr. Pearson, Stayner: "The Ills of Clothes," Dr. Shaw, Singhampton; "Adenoids," Dr. McFaul, Collingwood; "Specimen Cystic Tumor of Ovary, complicating Pregnancy," Dr. McKay, Collingwood.

Book Reviews.

Examination of the Urine. By G. A. DE SANTOS SAXE, M.D., Pathologist to the Columbus Hospital, New York City. 12mo volume of 391 pages, fully illustrated, including eight colored plates. Philadelphia, New York, London: *W. B. Saunders & Company. 1904. Flexible leather, $1.50 net.* Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

Dr. Saxe has presented a work on examination of the urine unusually complete, absolutely up to date, concise, yet explicit in all its parts; and it will be found to meet fully the requirements of the student and practitioner without burdening him with unnecessary analytic procedures. Special attention has been paid to the interpretation of findings as applied to clinical diagnosis, and the student is told what each chemical element and each microscopic structure means when found in the urine. The character of the urine in various diseases is also described in detail, Descriptions of technic have been made very explicit, and the author has inserted some new methods of working developed in his own experience. Cryoscopy and other means of functional diagnosis have been given their proper places. The text is fully illustrated, including eight colored plates of the various urinary crystals. The work will be useful because it is practical.

The Principle of Bacteriology. A practical manual for students and physicians. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Seventh edition, enlarged and thoroughly revised, with 100 illustrations, of which 24 are colored. Lea Brothers & Co., Philadelphia and New York. 1905.

The new edition of this well-known work contains the latest knowledge in the ever-changing subject of bacteriology. Dr. Abbott is master of a style clear and concise, as becomes scientific diction, but at the same time most charming and readable. His book on this score has no equal in the English language, and is the very thing the busy practitioner is looking for. The chapter on infection and immunity is especially worthy of commendation.

Introductory Physiology and Hygiene. By A. P. KNIGHT, M.A., M.D., Professor of Physiology in Queen's University, Kingston. Toronto: The Copp, Clark Co.

This little book is well printed on good paper and substantially bound. We are delighted to see it. It presages more attention to this important subject. It will certainly be a boon to teachers. The method followed, that of experiment and observation (laboratory method), is the right one; the arrangement is good; the book is divided into four parts for

pupils in the First, Second, Third and Fourth reading books respectively, but is intended to help the teachers in preparing the lessons for class work, not for pupils' use at all. We are glad that a lesson has been inserted on "Milk," but we do not quite agree with the author about pasteurizing milk. Everything about the stable, cow, milker and utensils should be so clean that pasteurizing would be unnecessary. The illustrations, from original photographs, are excellent.

The Physician's Visiting List (Lindsay & Blakiston's) for 1906. Fifty-fifth year of its publication. The dose table herein has been revised in accordance with the new U. S. Pharmacopœia. Philadelphia: P. Blakiston's Son & Co. (successors to Lindsay & Blakiston's), 1012 Walnut Street. Sold by all booksellers and druggists. Price: the 25 patient visiting list, with one page for each week of the year, $1.00. The 50 patient visiting list, with two pages for each week of the year, $1.25. The same in two volumes, $2.00. The 75 and 100 patient visiting list in two volumes, $2.00 and $2.25 respectively.

The small visiting list for twenty-five patients per day or week to hand. A remarkably small, neat and handy pocket-book, with much valuable information in the way of tables, etc., in the front part of the book. Cordially recommended.

A System of Physiologic Therapeutics. A practical exposition of the methods, other than drug-giving. Useful for the prevention of disease and in the treatment of the sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia, Jewish and Rush Hospitals, etc. Volume VII.—Physical Education, including Massage and Exercise, by JOHN K. MITCHELL, M.D. Volume VIII.—Rest, Mental Therapeutics, Suggestion, by Francis X. Dercum, M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1905.

Volume VII. of this excellent system of physiologic therapeutics is confined to mechanotherapy and physical education. Attention is drawn to the bloodless method of reducing congenital dislocations of the hip, as practiced by Professor Lorenz, of Vienna. The article on exercises, as a method of physical education, has been given a special place in order to emphasize the therapeutic views advanced by Dr. Gulick, especially as to the corelation between the development of the race and that of the individual, and the necessity for guiding the individuals on evolutionary and historical lines. Attention is directed to the great harm that may result from following the advice of those who undertake to order the physical activities of persons whom they have never seen, and whose therapeutic needs they would be unable to recognize even upon personal examination. The dangers and even fatal effects caused by heart strain in this matter are illustrated.

Volume VIII. deals with rest, mental therapeutics and suggestion. We note that in the preparation of the section on hypnotism free use has been made of the works of Bernheim, Tukey and Hirsch. These two volumes, in every respect, are quite in keeping in utility with those which have already been mentioned in review.

The Diagnostics of Internal Medicine. A Clinical Treatise upon the Recognized Principles of Medical Diagnosis, prepared for the use of students and practitioners of medicine. By GLENWORTH REEVE BUTLER, Sc.D., M.D., Chief of the Second Medical Division, Methodist Episcopal Hospital; Attending Physician to the Brooklyn Hospital; Consulting Physician to the Bushwick Central Hospital; formerly Associate Physician, Departments of Diseases of the Chest and Diseases of Children, St. Mary's Hospital, Brooklyn, N.Y.; Fellow of the New York Academy of Medicine; Member of the Medical Society of the County of Kings; Fellow of the Society of Science, Letters and Art (Lond.), etc. With five colored plates and two hundred and eighty-eight illustrations and charts in the text. Second revised edition. New York and London: D. Appleton and Company. 1905.

The first edition of this work was fully reviewed on its appearance in this journal, and it is with pleasure we observe that a second edition, owing to the popularity of the work, has been so soon demanded. In the revision of this book care has been taken to add a considerable amount of new and important material without unduly increasing its bulk. The illustrations are exceptionally good, both from the standpoint of clinical accuracy, as well as in the artistic sense.

Simon's Manual of Chemistry. A Guide to Lectures and Laboratory work for Beginners in Chemistry. A text-book especially adapted for Students of Medicine, Pharmacy and Dentistry. By WILLIAM SIMON, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and in the Baltimore College of Dental Surgery, etc. New (8th) edition, thoroughly revised to conform with the eighth decennial revision of the U. S. Pharmacopœia. In one octavo volume of 643 pages, with 66 engravings, 8 colored plates representing 64 important chemical reactions, and 1 colored spectra plate. Cloth, $3 00 net. Philadelphia and New York: Lea Brothers & Co., 1905.

This remarkably comprehensive and compact presentation of chemistry answers the needs of all who are concerned in any way with the medical bearings of the science—teachers, students and practitioners of medicine, pharmacy and dentistry. As a teacher of long experience the author knows the three cardinal points: how to present a subject, what to include, and what to omit. His work has been a conspicuous favorite from the start, entering an overcrowded field, and winning its way to a record of eight large editions, most of them in several printings. Thus the author has had frequent opportunities of revising it thoroughly to date and eliminating any less important matters to gain space for those of greater moment without overstepping the limits of convenience in size and modera-

tion in price. This new edition is revised to accord with the new U. S. Pharmacopœia. Every page has been scrutinized and whole chapters rewritten and rearranged to conform with the most modern views. The ingenious series of colored plates have always proved great favorites. They show the actual colors and color changes of 64 of the most important tests used in inorganic and organic chemistry, poisoning, urinary examinations, etc., etc. It is a work which the student will carry with him into practice and which pharmacists, dentists and physicians will find most convenient for reference.

Dietetics for Nurses. By JULIUS FRIEDENWALD, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and JOHN RUHRAH, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. 12mo volume of 363 pages. Philadelphia and London: W. B. Saunders & Co., 1905. Cloth, $1.50 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

This book has been prepared to meet the needs of the training-school and to serve as a ready reference book for the nurse when on a case. The essentials of dietetics are given in a concise, clear manner, and the physiology of digestion has been carefully reviewed. The subjects of infant feeding and the feeding of the sick have been fully discussed, and a brief outline has been given of the principles involved in the nourishment of patients suffering from the various diseases in which diet plays an important role in treatment. A very useful feature consists in the extensive diet lists, with instructions, enabling the nurse to comprehend and intelligently to carry out the orders of the physician. Altogether, it is an excellent little work indispensable to the well-trained nurse.

A Treatise on Diagnostic Methods of Examination. By PROF. DR. H. SAHLI, of Berne. Edited, with additions, by FRANCIS P. KINNICUTT, M.D., Professor of Clinical Medicine, Columbia University, N.Y.; and NATH'L BOWDITCH POTTER, M.D., Visiting Physician to the City Hospital and to the French Hospital, and Consulting Physician to the Manhattan State Hospital, N.Y. Philadelphia and London: W. B. Saunders & Co., 1905. Octavo of 1,008 pages, profusely illustrated. Cloth, $6.50 net; half morocco, $7.50 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

The distinguished author considers all methods of examination for the purpose of diagnosis, and also gives admirable explanations of clinical phenomena from physiological as well as pathological points of view. The examinations of the stomach, sputum, feces, urine, and blood are exhaustively treated. There is an article from the pen of Dr. Theodore C. Janeway giving a brief review of the investigations of American and English observers upon the value of the clinical esti-

mation of blood-pressure, with a description of some newly devised instruments. Some of the new features in the chapter on urine examination are: Seliwanow's reaction for levulose, Bial's test for pentoses, and quantitative determination of urochrome after Klemperer. Osmotic pressure and cryoscopy of the urine are also discussed at length, and a description is given of Liebermann and Posner's method of staining urinary pigments. In the chemical examination much attention is directed to describing methods; and this is done so exactly that it is possible for the clinician to work according to these directions. The nervous system has been very elaborately detailed, giving unusual space to electrical examination. The American edition of this great work contains all the material of the now fourth German edition. Many new illustrations have been added by the editors.

Saunders' Pocket Medical Formulary. By WILLIAM M. POWELL, M.D., author of "Essentials of Diseases of Children", Member of Philadelphia Pathological Society. Containing 1831 formulas from the best known authorities. With an Appendix containing Posological Tables, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetrical Table, Diet List, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc. Seventh edition, revised. Philadelphia and London: W. B. Saunders & Co. In flexible morocco, with side index, wallet and flap. $1.75 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

It is not surprising to us that Saunders' Pocket Medical Formulary, which has reached its seventh edition, should have attained such popularity, for we know of no similar work containing so much useful, practical, and accurate information in so small a compass. In this new edition there have been added over 460 new and valuable formulas, selected from the works and private practices of the best authorities. The editor has shown discretion in the elimination of many obsolete formulas, inserting in their place newer and better ones, embodying a large number of approved new remedies.

A Text-Book of Diseases of Women. By BARTON COOKE HIRST, M.D., Professor of Obstetrics, University of Pennsylvania. Second edition, revised and enlarged. Octavo of 741 pages, with 701 original illustrations, many in colors. Philadelphia and London: W. B. Saunders & Company. 1905. Cloth, $5.00 net; sheep or half morocco, $6.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

This book is written on the same lines as Hirst's "Text-Book of Obstetrics," to which it may be called a companion volume, and we predict for it a similar success. The palliative treatment of diseases of women and such curative treat-

ment as can be carried out by the general practitioner has been given special attention, enabling physicians to treat many of their patients without referring them to a specialist. Throughout the book great stress has been laid upon diagnosis and treatment, and the section devoted to a detailed description of modern gynecological operations is most clear and concise. In this second edition the revision has been thorough, introducing, however, only matter that promises or has been demonstrated to be of permanent value. Forty-seven new illustrations have been added and thirty of the old ones replaced, the work now containing a collection of seven hundred and one beautiful original illustrations, many of them in colors. We take much pleasure in recommending Dr. Hirst's work to the medical profession generally.

Radiotherapy in Skin Disease. By DR. J. BELOT. With a preface by DR. L. BROCQ, Physician to the Broca Hospital, Paris. Translated by W. DEANE BUTCHER, M.R.C.S., Surgeon to the London Skin Hospital. Only authorized translation from the second French edition. With thirteen plates and twenty-eight illustrations. London: Rebman Limited, 129 Shaftesbury Avenue, W.C. New York; Rebman Company, 1122 Broadway. Toronto: C. E. Wingate, 2 Richmond Street East.

In looking over the work on Radiotherapy, the first sentence in the preface strikes one: "Radiotherapy was born but yesterday. It has already made enormous strides. To-day it might be said to dominate the therapeutics of dermatology."

In this country we have not paid enough attention to Radiotherapy. The hospitals are now equipped with proper appliances, nor have they trained students to appreciate the value of the X-ray.

It is more than probable that by reading this work with the importance Dr. Belot has given to it, this therapeutic agent will become more popular and great advantages reaped by numerous patients. It is almost impossible for the private practitioner to have a complete outfit; at the same time, with the advancement of science these formerly very expensive instruments have been placed within the means of the many. It is only by reading such a volume as this that one can appreciate the many machines that have been advocated and rejected, and also to appreciate with what a comparatively small outlay a very complete outfit may be installed. Physicians should be acquainted with the technique of X-ray, and we have not read a volume that more comprehensively deals with the subject from a therapeutic standpoint than the one under review. As this method of treatment is entirely in its infancy, and such really remarkable results have been obtained in almost every

branch of dermatology, we feel that it would be superfluous for us to review the treatment of any particular disease. Of course it is more in the hypertrophic and ulcerative processes that the great benefits of the X-ray are seen, yet we feel on reading this volume that there is no lesion in dermatology in which the X-ray cannot be used with benefit to the patient.

The illustrations in this book are up to the high standard of the Rebman Company, and that is saying a good deal. The book, from a typographical standpoint, can be easily read, and we can thoroughly recommend it to all practitioners who have any interest in skin diseases.

A Manual of Clinical Chemistry, Microscopy and Bacteriology. By DR. M. KLOPSTOCK and DR. A. KOWARSKY, of Berlin. Translated by THEW WRIGHT, M.D. London: Rebman Limited, 129 Shaftesbury Avenue, W.C. New York: Rebman Company, 1122 Broadway. Toronto: C. E. Wingate, 2 Richmond Street East.

The small volume we have before us is one that we can thoroughly recommend to the student and practitioner who wishes to keep in touch with the advancing medical sciences from a chemical and microscopical standpoint. The chemistry of the secretions is tersely and concisely shown for the whole body. The examination of the urine on which so many volumes have been written, is probably in this one treated in a more brief while possibly a more comprehensive way than usual. The blood tests are elaborately described; the different bacteria and their methods of microscopical preparation are described in great detail.

We can thoroughly recommend this book, and are satisfied that it will be of the greatest advantage to the practitioner and student. It is clearly printed on good paper, and well bound.

Pathogenic Micro-organisms, including Bacteria and Protozoa. A practical manual for students, physicians and health officers. By WILLIAM HALLOCK PARK, M.D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Director of the Research Laboratory of the Department of Health, City of New York, assisted by ANNA W. WILLIAMS, M.D., Assistant Director of the Research Laboratory. Second edition, enlarged and thoroughly revised, with 165 engravings and 4 full page plates. New York and Philadelphia: Lea Brothers & Co. 1905.

We have much pleasure in acknowledging the second edition of this work, but in the review of it we are unable to use the familiar phrase in the review of a late edition, that while many noteworthy features of the first edition have been retained, much has been added, etc. It has all been thoroughly revised and is absolutely up-to-date.

The bacteriological section has been practically rewritten. Part one deals with the general principles of bacteriology in

an excellent manner, with the main theories of the means of resistance of the human body, the theories of immunity and nature of agglutinating substances, etc. Part two, as in the former edition, deals with the special pathogenic bacteria separately, and in this section is given not only a full and concise account of the bacteria from literature, but also from personal work, rendering it of much interest. Part three has been much enlarged, and consists of much other than malarial parasitology, in that it deals with the protozon, using Doflin's classification, and taking up the general characteristics with the main forms to be met with in man and animal.

It is an excellent work, and to quote from the preface: "The presentation of the subject is that for the student and physician rather than for the laboratory worker."

The Principles and Practice of Medicine. Designed for the use of practitioners and students of medicine. By WILLIAM OSLER, M.D., Fellow of the Royal Society; Fellow of the Royal College of Physicians, London; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University, Baltimore; Formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Sixth edition, thoroughly revised from new plates. New York and London: D. Appleton & Co. 1905.

So many sections have been rewritten, and so many alterations made, that in many respects this is a new book. The publishers have furnished a larger page and new type, so that with a considerable increase in the amount of reading matter there has been no enlargement of the volume. "I have tried to make the work a reflex of current knowledge of the symptomatology and treatment of disease, based upon the literature and upon our experience at the medical clinic of the Johns Hopkins Hospital," so writes the author in the preface to the sixth edition. Since the death of the erudite Nothnagel, Osler seems to occupy the premier place in the medical world as clinical teacher, and the excellence of his work is known wherever modern medicine is taught.

A Manual of Diseases of the Nose and Throat. By CORNELIUS GODFREY COAKLEY, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College; Fellow of the American Laryngological, Rhinological and Otological Society, etc., etc. Third edition.

As its name implies, this work is intended for the guidance of the student and general practitioner; the various chapters having been carefully revised and enlarged to more successfully meet that end.

While appreciating the general character of the book and endorsing the exposition of the science of Laryngology and

Rhinology, as taught by the author, some statements have slipped into the work, almost in the light of dogmas, which the reviewer cannot accept as accurate, for instance:

"Acute inflammation of the mucous membrane lining the accessory sinuses of the nose is an exceedingly common occurrence."

"Naso-pharyngeal polypi . . . have, like nasal polypi, a marked tendency to return."

"Hemorrhage is *frequently persistent after excision of the* uvula."

"Hypertrophy of the Lingual Tonsil . . . may be very much relieved or cured for the time being, but the lymphoid hypertrophy frequently returns."

"In chronic granular pharyngitis . . . operation, in spite of cocaine, is quite painful, and in nervous patients a general anesthetic is preferable."

In the experience of the reviewer, naso-pharyngeal polypus has always occurred singly; and once removed, has never been reproduced. Also, after uvulotomy, the only instances in which there was persistent bleeding have been cases in which too large a segment of the uvula has been excised—an exceedingly rare occurrence. Likewise, in cases of chronic granular pharyngitis, he has always found that the application of a ten per cent. solution of cocaine was sufficient to produce complete local anesthesia, permitting the removal of the granulations without pain even in nervous patients.

With the exception of a few slight digressions of the above character, Dr. Coakley's book is an excellent résumé of the subjects of laryngology and rhinology, brought down to the experience of to-day. In it there are good plates, and cuts illustrative of the technique of operative work. The opening plate, illustrating transillumination of the antra is an excellent one; while the cuts demonstrating the sites of sinus disease and the methods of treatment are instructive.

To the matter of diagnosis the author has devoted much attention. This is particularly so in reference to sinus disease, and to elucidate this branch of the subject more fully he has rewritten and reillustrated the chapter bearing upon it.

For convenience of the reader, a special chapter upon therapeutics has been added.

The publishers have also done their part toward producing a compact and well-finished book P. B.