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By H. R. Casgrain, M.D., Windsor.

Members of the Ontario Medical Association,—I must thank you sincerely for the honor you have done me in electing me, for two consecutive years, to the highest office in the gift of this association. I wish, further, to thank those who have labored with me in the work of the association, at the sacrifice of much valuable time and the expenditure of no small amount of effort, in order to make these annual meetings a success. We have to present to you this year a rich and varied programme for a portion of which no small thanks is due our medical brethren of the great neighboring republic. To them I extend a hearty welcome from this association. They are, in reality, part and parcel of ourselves, inasmuch as medicine recognizes no national boundary. In extending to them the invitation to address us, we recognize the great work that is being accomplished in the domain of medicine and surgery in the United States.

In reviewing the progress of medicine for the past two years, we note that while the results of research and observation on internal diseases have presented little that can be called spectacular, much of practical importance has been accomplished, and at least one or two striking discoveries have been announced. Within the time under consideration we have the vaccine method of treating typhoid fever. It is probably too soon to pronounce as to the merits of this mode of treatment, yet, according to Anders (*Jour. Amer. Med Assoc.*, Dec. 10, 1910), the value of vaccine for the following purposes must be

conceded: (1) As a means of prophylaxis; (2) in suitable cases when continued during convalescence, to prevent relapses; (3) to combat local infections with the typhoid bacillus, as, for example, bone suppurations which arise in the period of convalescence; (4) for the removal of typhoid bacilli from the feces and urine in the case of typhoid carriers.

Syphilis.—During the past year numerous papers dealing with salvarsan, generally known as "606," have appeared. This is probably the greatest discovery that has taken place in the domain of medicine for probably the last decade. The papers published in regard to its effects have been numerous and optimistic. Granting that the tone of medical opinion has been too optimistic, there yet remains little doubt that remarkable results will be obtained from this mode of treatment.

It would require too much time to enumerate in detail the progress that is being made in the various branches of medicine. While, as has been said, the past two years have, with possibly the two exceptions noted, not been productive of any startling discoveries, they have been years of activity in the line of medical research.

Progress in surgery depends, to a large extent, upon the earliest possible recognition of the surgical lesion and the technique of its treatment. The early recognition of the surgical lesion is really more of a medical problem than it is surgical. This, in itself, constitutes a problem of no small magnitude, inasmuch as it includes the education of the public. The laity must be informed, to a certain extent, in regard to the signs and symptoms of those diseases for which at the present time they do not seek the advice of their family physician, the general practitioner. The results obtained by associations organized for the study and prevention of tuberculosis show the value of a propaganda for public instruction along these lines. The surgical diseases about which the public should receive instruction are numerous. The first dressing of a wound is one of the most important factors in the prevention of infection. Incipient cancerous lesions, especially when located upon exposed mucous membranes of the skin, are apparently insignificant—so much so that very few persons seek professional advice before the lesion has grown and has reached a stage of lymphatic involvement. Women should be educated in regard to the possible significance of uterine hemorrhage, if the results of operation for cancer of the uterus are to be improved. Side by side with this education of the public must progress the education of the general practitioner in the recognition of the earlier signs and symptoms of surgical lesions.

The technique of treatment has been designated the second factor in the progress of surgery. The surgical treatment which promises the best immediate and permanent results in the largest number of cases must be undertaken earlier, and must depend upon a more accurate diagnosis. The earlier the treatment is instituted the more difficult is the subject of diagnosis. In order to attain the requisite skill in diagnosis the surgeon must study not only his own results, but the results of his colleagues throughout the world. A fortuitous trend of the times is the greater tendency for surgeons as well as physicians to spend time at post-graduate work and in attending upon the clinics held in the larger centres of population. This tendency is bound to lead to better days in both medicine and surgery.

I wish to emphasize the importance of greater solidarity in the organization of the Ontario Medical Association. I am firm in the belief that this association should preserve its autonomy. There should be a more intimate relation between the provincial association and the county associations. A requirement for membership in the provincial organization should be membership in good standing in the local society. This will improve the personnel of the Ontario association. The members of the local society are in much better position to judge as to the professional and social standing of applicants for membership than is this association and, furthermore, qualification for the Dominion Medical Association should depend upon good standing in the provincial association. Such procedure would go a long way towards making the medical profession of the Dominion a united body, able to accomplish all that can be accomplished by unity of action. I hope soon to see the day when this matter will be considered seriously, and when the provincial and local societies will prove a greater stimulus to each other than in the past.

This province has enjoyed a reputation for its high standard of entrance upon the study of medicine. The standard should be still further advanced. In the first place, we should have a uniform entrance as well as graduation standard for all candidates who would practice medicine and surgery. The minimum of matriculation should be a degree in arts from a recognized university, and such degree should be required to include special work in the natural sciences and modern languages, and also Greek, inasmuch as this latter language is the international language of science, and especially medicine.

I further hold it that osteopaths and homeopaths should be required to take the same examinations as regular candidates. The

only exception being modes of treatment, except surgical, for which all should be required to pass a uniform examination.

We have this spectacle—of two or three defunct universities with representation on the Ontario Medical Council Board. This should not be. Only those institutions actively engaged in the teaching of medicine should be represented on the Ontario Medical Council.

Some overzealous friends of the provincial university have urged the claims of that institution that its graduates be granted license to practice upon the presentation of their graduation diplomas, without further examination. I am utterly opposed to this. Not that I have any ill-feelings against the medical department of the University of Toronto, which I consider one of the best on the continent, but I consider such action would be unfair towards the medical department of Queen's University and the Western University, both institutions of which have been strong in their endeavors to uphold the standards of medical education in this province.

Medicine, let me repeat, is a science of practical utility. It found its origin in the necessity of relieving human misery. It was, at its birth, but a simple and rude empiricism. When we behold that to-day, with the most rigorous and exact methods, that the natural sciences can place at our disposal when we contemplate that our scientific efforts have already won a well-attested success, by means of incorruptible statistics when we realize by what means medicine is now able to protect the life and health of the individual, and how it can save a whole continent from the ravages of epidemics when, in fine, our hearts may, with just pride, exult at this noble conviction—that no other science is as generous and as altruistic as that of medicine. It is not the solemnity of this moment, it is not the eclat of this meeting, that force me to make the assertion that each of our confreres and collaborators, the youngest as well as the most modest, even he, whose name is yet unknown, and who seeks in the seclusion of a laboratory the thread of a truth, the solution of a problem, the answer to a question that he has asked himself, each, has reason and right to exclaim, "It is an honor, a privilege, and a joy to be a physician!"

SANATORIUM TREATMENT.*

By Dr. C. D. Parfitt, Gravenhurst.

In accepting the honor of an invitation to read before this Association a paper on Sanatorium Treatment, I realized that the subject is one which in general and also in many details is familiar, not only to you who are especially interested in the tuberculosis problem, but even to the general public. Therefore, as the title allows some latitude of interpretation, I shall confine myself to several points which seem to me of present interest, and with full knowledge that there will be many omissions of important considerations.

The slow acceptance of the value of sanatoria and the tardy adoption of the sanatorium treatment for consumption seem remarkable to those who have long known the effectiveness of sanatoria in prolonging the individual life, and of their inevitable influence in reducing the mortality of tuberculosis by the prevention of infection and the education of the public. Yet the seed long sown, and of such slow growth, has during the past decade brought forth an abundant harvest in the development of the various special institutions, the adoption by various existing institutions of sanatorium methods, the great number of lives restored to normal or useful health, others prolonged in comfort, and unknown numbers saved from fatal infection.

An open-air and dietetic treatment for phthisis was advocated by physicians of antiquity, and recurring through the centuries have come messages of its curability. In relatively recent times, shortly after the rebellion of 1745, a Scotch physician writing from the Highlands to friends in London, insisted that fresh air and diet were of first importance in the treatment of consumption, and that medicine and climate ranked only as secondary measures. A somewhat similar gospel was preached by other physicians from time to time during the next hundred years, but, nevertheless, the medical profession was quite unprepared to accept the rational principles laid down by Bodington in 1840. He carried his views into actual practice and must be regarded as the father of the sanatorium idea, since he undertook the constant medical supervision of patients in a special building, in addition to enforcing free

* Read before the Canadian Association for Prevention of Tuberculosis, London, May 17, 1911.

ventilation and providing a generous diet. This far-sighted man was in the early Victorian period far before his time, as his views were ridiculed and his consumptive patients driven from his sanatorium, which was then fittingly converted into a lunatic asylum.

Brehmer, strongly convinced of the curability of phthisis and attracted by the writings of Bodington, gave expression to his views by the creation of a small sanatorium in Silesia in 1854. Excepting the importance attributed to site, which Brehmer thought should be in a mountainous district, the principles of sanatorium treatment developed by him largely prevail to-day. Dettweiler, one of Brehmer's assistants, and a former patient, later emphasized the necessity of rest to a degree not practised by his teacher, probably much to the advantage of the average consumptive. The father of sanatoria for the poor, he lived to see Germany covered with sanatoria for the working classes before his death in 1904. Trudeau, exiled to the Adirondacks in 1873 by Dr. Loomis, because of tuberculosis, after his recovery was strongly influenced by the teachings of Brehmer and Dettweiler, and in 1884 began the erection of what has since become the famous Adirondack Cottage Sanatorium, which will long remain a testimonial to his enthusiasm, energy and altruism. In 1891 Bowditch established the first sanatorium in a "home" climate at Sharon, in the vicinity of Boston. Fourteen years ago the first sanatorium in Canada was established, and for seven years with hospitals (at least in Ontario) mostly closed to tuberculosis, there was slow progress in providing for the needs of our tuberculous population.

Canada now possesses 20 or more sanatoria and special hospitals, but this development, after the relatively early start made 14 years ago, does not keep pace, proportionately to population, with the recent development of similar institutions in the United States, which now number there approximately 400. The need of a more active work along this line may be appreciated from figures taken from Ontario only. At present there are 12 sanatoria and hospitals for the treatment of pulmonary tuberculosis, with 547 beds, which in the past year treated 1,421 patients. A conservative estimate of the actual number of patients in Ontario with an active tuberculosis is 10,000, and Phillips, of Edinburgh, would consider by his method of estimation that 21,000 are in need of medical supervision. Approximately 5% only of the former number can receive institutional treatment at any one time, and 171,000 of those now living in the province will die of tuberculosis according to the present death rate, at the rate of 2,500 yearly.

The great value to the community of special institutions for the treatment of tuberculosis is shown by the mortality statistics.

The report for Ontario for 1908 shows a death rate for tuberculosis of 112 per 100,000 a pleasing contrast to that in 1897, when the sanatorium movement was begun, and to that of 1901, when this Association was formed, the latter being 150 per 100,000 and the former approximately the same. The percentage of deaths from tuberculosis in 1908 was but 7.7 compared with 11 seven years ago. Newsholme, after an elaborate analysis of the causes which have decreased the death rate from tuberculosis, a reduction that has been proportionately much greater than that of the general death rate, concludes that no influence except that of institutional segregation has appeared in actual experience in a constant relation to the amount of tuberculosis, and it must, therefore, be accepted as having been the predominant influence. Of the 1,400 patients treated yearly in the sanatoria of the Province, who remain therein for an average of three months, only 200 die in residence, so that it seems but fair to conclude that education, the result of the training of patients in special institutions, and of the general educational propaganda, toward which this association has done so much, probably divides honors here with segregation as a cause of our 25% reduced death rate.

The reduction in mortality obtained through the education and isolation of patients at sanatoria would alone make these institutions entirely worth while for the public, even though the patients themselves did not materially benefit by the treatment. However, for the individual also, they are eminently worth while, as may readily be shown by a careful consideration of the published results of sanatorium treatment. These results have been subject to considerable criticism, because in most cases they have not fulfilled the optimistic prophecies made by some too-enthusiastic advocates at the beginning of the sanatorium movement. This failure is not the fault of the sanatoria, however, but rather that they have been asked to do the impossible. To estimate the work of sanatoria, one must know the condition of patients on admission, one must be able fairly to judge what is possible—or at least what is impossible—under certain pathological conditions, and one must know the condition on discharge. Now, sanatorium physicians, in order to have a basis for comparison of work, have agreed to use in their reports a set of really arbitrary terms. Unfortunately it is inevitable that such terms will be used (and often misused) by patients, laymen, and physicians, who do not understand truly their limitations and qualifications. Moreover, the actual improvement attained as a result of sanatorium care, however described or classified, can often only be maintained if the patient can, and will, carry out the

instruction he has received and suitably modify his home or working life. The sanatorium is surely not to be condemned, for instance, when a patient, with disease arrested and in excellent condition, takes a position as baggageman at a junction point in the Christmas season, because of the need of immediate earnings for a sick wife, and develops a serious hemorrhage within a few days.

It has been the experience of all sanatoria, in their earlier years at least, that, instead of the incipient or reasonably recoverable class of cases for whose care they have been especially built, they have been obliged to accommodate patients in all stages of the disease. Nearly all sanatoria make some attempt at selection of patients in order as much as possible to favor those in the curable stage, and success in this attempt, or the lack of it, will materially modify their statistical records. It should be recognized also that the personal equation of the individual physician has much to do with classification. Modified sanatorium methods are now applied to all classes of tuberculous patients, both within and outside of special institutions, and the term "sanatorium," originally used for institutions where a cure was attempted, has become, perhaps, unfortunately, of much wider application.

Sanatorium results must be considered in relation to the length of treatment and to the grouping of patients according to the stage of disease when admitted, rather than as a lump result, if sound conclusions are to be drawn as to the value of this work in either an absolute or comparative sense. Quite too much is expected in a relatively short term of treatment when we are dealing with a disease that in most instances has been months or years gaining a grasp upon the organism, and a deep pessimism regarding the outlook for a consumptive patient has to a large extent been supplanted by an unwarranted optimism regarding the possibility of permanent recovery. Seventy-five per cent. of patients treated in sanatoria return home before their disease is arrested. Statistics of immediate results published by various sanatoria vary between 25% and 70% for patients with disease apparently cured and arrested. The ultimate results, those which have stood the test of time, are of more value in estimating the efficacy of treatment. These will be especially influenced by the social status of patients, as a heavier mortality will bear upon those who have the harder lives. Roughly speaking, 50% of patients in the incipient stage are alive 15 years after discharge, while 50% of those in the moderately advanced stage are dead in six years. In pre-sanatorium days among the upper classes the average duration of consumption in selected cases was eight years, while among an out-patient hospital

class it was 4 years. When the treatment of tuberculosis becomes a business proposition the best results are obtained, as is evidenced by the results of the German insurance companies' sanatoria. Many early cases are sent to these institutions because it pays to find them and send them there, with the result that 7 years after discharge two-thirds of the many thousands of patients are still capable of work.

The aim of sanatorium treatment is to increase the resisting power of the patient to the greatest possible degree by taking advantage of all the measures which make for sound health and removing those which make for ill health. This is accomplished by providing an abundance of fresh air, both day and night, and a generous but not excessive diet; arranging a carefully ordered life with regulated hours of rest and exercise; preventing fatigue and excesses of all kinds; and giving education in hygienic essentials. An institution built and organized for this purpose makes the application of such principles relatively easy and permits a consistent elaboration of detail of treatment not otherwise readily effected. The special advantages of the sanatorium over treatment at home, or in open health resorts, should depend mainly upon constant, competent medical supervision. This supervision is aided by the mutual support that patients, living a communal life devoted to a single aim, give one another.

Efficient medical supervision must be based upon sound clinical work at all points. This means the maintenance of consistent comprehensive medical routine. There is in all sanatoria need of, and opportunity for, much clinical investigation and treatment apart from the special subject of tuberculosis. Breadth of training in an institutional physician is essential, as, unfortunately, specialism will inevitably limit opportunity for experience in other lines, and gain in depth of special experience is at the cost of some loss of breadth of view. All sanatoria would benefit if consistent visits were paid by physicians of experience in several lines. Not the perfunctory visits of a heterogeneous class appointed for politic reasons, whose visits are generally a hindrance and often farcical, but serious visits from a small consulting staff for clinical study in internal medicine, laryngology, gynecology and surgery.

Apart from the more formal relation of the sanatorium physician to the patient in a strictly clinical sense, he should know and control all the details of the patient's daily life—should know how thoroughly he lives the outdoor life and what modifications of it may be necessary; how his rest hours are spent; how his exercise is taken and what its effect is; what are his diversions and amuse-

ments; what are the causes of depression of spirits. Meals should be taken under his eye, or under that of an assistant or nurse, whose duty it is to encourage the patients to eat, to modify in certain cases the meal provided, to report evidence of disordered appetite or digestion, and to give a fair criticism of the food provided. Instruction in the methods of the prevention of infection of others and of the patient himself must be given by the physician, or his staff, and these methods must be consistently enforced. At all times it is, of course, necessary to individualize the routine to be followed. A course of lectures giving a comprehensive view of the subject helps to inspire the patient with enthusiasm for following out the details of treatment. It may also be of much educational value.

Between physician and patient a most confidential relation should exist, and the latter should regard the former as a mentor willing to give heed to all matters which may be of the least moment to him. They should form a partnership in the business of acquiring health. Frankness between them is essential. It is important that the patient (if a recoverable case at least) should clearly understand his physical condition, and the physician must make sure that the patient does so understand. Otherwise the patient may not make the concessions, present or future, which are necessary. The future safety of the patient depends largely upon the rational appreciation he acquires of his own case, of the pitfalls that lie ahead, and to some extent of the measures he must take in possible emergencies. The point of view that a sanatorium experience should be in all points educational as well as curative should always be before him.

This matter of adequate supervision is a point too often lost sight of. Latham, before the International Congress at Washington, while confirming his previous opinion as to the great value of sanatoriums properly used, said that the majority of sanatoriums are inefficient. The principal reason given for the opinion was the failure of many to provide the discipline and constant medical supervision which are so essential to success. It is a frequent experience that the efforts of a directorate are centred at first upon acquiring a suitable plant, and, for economic reasons, after it is obtained, its staff is kept down to a minimum. Moreover, its staff's efforts are often concentrated upon effecting a low per capita cost, and the welfare of the patients themselves necessarily becomes of secondary interest. Usually a sanatorium has been projected with the ideal in view that it would become filled with early, or readily curable, cases, and that the so-called hygienic-diet-

etic treatment, so seemingly a simple matter of sane, every-day living and of easy application, would of itself suffice with but scant supervision. Experience shows that the ideal class of readily recoverable cases forms but a minority of the cases admitted to the average sanatorium even when some attempt is made to keep out those who are extremely far advanced in disease. My several years' service in a public institution forces upon me the conclusion that, with the present apathy of the medical profession toward the early recognition of pulmonary tuberculosis and the present ignorance on the part of the public of the need of attention to undramatic, but really urgent, conditions of ill-health, it will be long before there is much improvement in the class of patients admitted to our sanatoria. Certain patients will get better under any laxity of supervision if conditions of life are made a little more favorable for them, and here I may recall the fact that at some time of life nearly every one becomes infected and but 10% of the population die of tuberculosis. Other patients, on the contrary, will fail to improve, no matter what effort is made in their behalf. It is the large middle class, mostly of advanced cases, which most requires constant efficient care, as the issue for the majority of these hangs in the balance. As already suggested, there is need of study and treatment of complications, nominally secondary to the tuberculosis, but often of paramount importance, and this additional attention may cost considerable time. When much time is demanded by the sick there is less time for supervision of those who are relatively well, but who, having reached the point where they seem almost out of the woods, have entered upon the real danger time for the tuberculous. It is, therefore, evident that the staff in its several departments should be adequate for the work with due regard to the best interests of the patients. Pratt well demonstrated the value of medical supervision amongst the tuberculous poor of a great city, and obtained results, which, indeed, rather surpassed those of the average sanatorium for a similar class of patients. When developing his class method of treatment he argued that in most sanatoria the many patients had relatively little supervision allotted to each, and, since supervision was obviously so important, probably good results could be obtained if the handicap of unfavorable environment were compensated by intensive supervision.

In the regulation of the patient's life, the enforcement of rest and the adjustment of the proper amount of exercise are of first importance. A sound decision regarding these essential factors in treatment requires constant attention to every detail and is the

key to the success of treatment in most cases. The pendulum has swung from exercise as a curative agent to rest and back again to exercise. Both are necessary, but their use must always be strictly individualized.

Rest is almost invariably a necessary first measure in sanatorium treatment. Either absolute or relative, it may have to be enforced a long time, until all symptoms of active disease have subsided. More early relapses occur from abandoning rest too soon than in any other way, just as more serious over-exertion later is responsible for more fatal relapses than any other cause. Rest should be maintained as long as there is evidence of physiological depression, as shown by systemic symptoms. This will usually mean until all fever has subsided, cough and expectoration have decreased materially, and a satisfactory increase in weight has begun. Appetite will also have improved as a rule and dyspeptic symptoms have lessened. Rest is all too frequently too laxly enforced because the patient is not dramatically ill and has still comparatively unimpaired strength. Moreover, after exercise has been prescribed periods of rest will from time to time be required to overcome the evils of over-exertion.

Exercise later becomes imperative in order to induce a physiological stimulus as well as a psychological one. Through observations made on the blood of exercising patients, Inman has been able to offer a rational explanation of the effect of exercise, of its value in some cases and of its harm in others. If too great exertion is taken the fatigue makes the body incapable of response and some degree of relapse occurs.

Fatigue must always be avoided, and for one patient the rub-down after a bath may be as harmful as several miles of over-exercise for another. The excessive cough of an acute bronchitis may become a severe over-exertion for a quiescent case, which should on no account be permitted. In the increase of all kinds of exercise the previous muscular strength and habit of the patient should be considered. Great care should be taken to watch for the danger signals of over-exertion.

Since the astonishing results of graduated labor as a therapeutic agent, scientifically administered by Patterson and scientifically explained by Inman, have been published, great interest, both professional and lay, has been aroused. Unfortunately the provisoes for the safe use of this measure of treatment, a measure suggesting very possible practical application in the management and conduct of the sanatorium itself, are frequently forgotten. The fact that well-nourished, sunburned patients, often with little

energy and capacity for work, are turned out of sanatoria, engenders criticism, and it is urged that patients themselves should be largely an economic factor in the work of an institution. Before the results of Patterson and Inman had been obtained at Brompton Hospital Sanatorium, patients had been used with success in partly supplying the work of numerous sanatoria, and exercise apart from work had been an important therapeutic factor. The reason that patients' labor had not been more generally a success is, I think, largely to be attributed to the fact that most sanatoria hitherto have had a lot of patients ill assorted from the physical standpoint. In Ontario 85% of advanced and far advanced cases does not promise well for the economic use of patients, obviously from a common-sense standpoint and, mixed all together, the use of the possible 30% or 40% who might be available after a preliminary course of rest, and who might have but a short period of residence ahead, is extremely difficult from the standpoint of discipline. Under such conditions the consistent and safe use of patients in the work of an institution is exceedingly hard to effect. Patients' work should in the first place be in the patients' own interest, and if it can so be managed that it is in their interest then they must be brought to realize this and to feel that it is to maintain and improve their working capacity. This will no doubt be difficult to bring about unless at the same time more elaborate measures for graded work are provided, as at Frimley. A farm colony under medical supervision, where well-selected patients graduated from the sanatorium can prolong their cure and at the same time regain their grip on life through active work, is quite different from the work in the average sanatorium and greatly to be desired. This might readily approach Frimley conditions. Patients at the Brompton Sanatorium, Frimley, are only admitted after preliminary observation and treatment at the Brompton Chest Hospital. Great care is taken to select only those who are likely to derive the greatest benefit from sanatorium treatment, and these form but 20% of the hospital admissions. Only cases of limited disease, who show improvement during the probationary course, are admitted, and they are retained as long as it is thought desirable. Before being given special graded labor the patient has to be able to walk ten miles daily without fatigue. How many cases of this class have we, or are we likely to get, in Ontario sanatoria, especially those for working people? How few are likely to reach this degree of exercise in the average term of treatment allowed! Moreover, at Frimley the effect of work upon the patient has been checked by consistent observations of the Opsonic Index,

a laborious, time-consuming work, requiring special training. Extreme care is also taken of over-exercised patients, even though the over exertion has been relatively slight. Of 184 cases discharged 110 attained a condition of total arrest. Sixty-one per cent. of all cases discharged were at work from 8 to 20 months later. It will be some time before such favorable conditions can be approximated in Canada, and in the meantime it will be well for us to go cautiously in attempting the same thing or a make-shift.

A valuable and much exploited therapeutic agent at present is tuberculin. For tuberculin to be safe and worth while a period of several months' treatment, under constant, close and skilled supervision is necessary. It is therefore better for the patient, under most conditions to have tuberculin administered in a sanatorium. It is undoubtedly a useful adjunct to sanatorium treatment, and in some cases probably shortens it, but the final test of lasting results emphasizes the value of the judicious use of this agent as an aid in the development of immunity. Moderately advanced cases are rather more benefited by its use than are incipient cases. The Adirondack Sanatorium Series show that 40 per cent. more tuberculin-treated cases than untreated sanatorium cases are alive after periods varying from one to fifteen years. Approximately 25 per cent. more treated cases had full capacity for work three years after discharge than had untreated cases at Edmundsthal Sanatorium. General nutrition is but little affected, more patients lose bacilli and fewer relapse of those who are treated.

A satisfactory diet causes most sanatoria considerable difficulty. For the class of patients suitable for sanatoria as contrasted with hospitals it is relatively less important than the surroundings and medical management, provided that it is generous and sufficiently well prepared. For those who have considerable constitutional disturbance, however, it frequently becomes of first importance. All classes of diets have to be provided when the patients of very different diseases are mixed together, and those diets suitable for fever and convalescent patients must find place as well as those for the relatively robust, who, stimulated by open air life, can eat and digest without difficulty. Long residence is apt to make those who do well unduly critical, and those who have much impaired appetite and digestion naturally become so. A culinary department intended to meet mainly the requirements of patients of the more robust type may be entirely inadequate to prepare proper diets for the former. A special diet kitchen, in competent hands, is an essential frequently lacking.

Both standard and individual dietaries should be controlled by

the medical head. The diet as finally presented to the patient, however, will depend upon the sum expended on supplies, the nearness to good markets, the care and foresight of the purchaser, the art of the cook, and the manner in which it is served. Some of the larger and more efficient institutions have found a special dietitian, appointed to prepare balanced dietaries, a valuable medical adjunct and an actual economy.

Recent investigations on the management of diet made in some physiological laboratories, on normal people, and in some sanatoria, on consumptives, will help toward a wiser future régime than has obtained in the past. Both experiment and experience have shown that a mean between the extreme amounts of food at which patients were found to improve is most suitable for the average patient. The forced feeding, in earlier days so general, is now reserved for special cases. Much excessive feeding has arisen from undue enthusiasm on the part of both patient and physician to produce a great gain in weight, since gain is an index of improvement. No more satisfactory progress is obtained in the tuberculous area, however, than by a lighter diet, while in the end the excessive feeding causes Nature to rebel with resulting harm to those who have naturally weak digestion. In order to make good the excessive waste caused by the disease a moderate increase upon the diet suitable to the individual in ordinary health is necessary. Part of this increase should be in animal food and the increased amount of this food should be maintained until the disease is arrested. If the patient is under weight there should also be a considerable increase in fats and starchy foods. These kinds of foods should be materially decreased when the patient reaches a few pounds more than his best known weight, or, if his best weight has been too low, when the standard weight for his age and height has been surpassed. Season, latitude, social condition and habit will all modify the type of diet within certain limits. Some physicians, rather prejudiced against animal food, are inclined to reduce its amount and make good the substances which it supplies by increasing the starchy foods. This alteration makes a bulky diet, that is undesirable with patients with poor digestion.

Fresh air presents few difficulties since a sanatorium has usually been built with a view to supply it in excess. Since we shall see such an excellent object lesson to-morrow little need be said on the subject, which, of primary importance, makes the name of "Open-air treatment" almost synonymous with "Sanatorium treatment." At the Queen Alexandria Sanatorium there is nothing left to be desired in the matter of applying this treatment, since

infirmary cases, as well as the abler type of cases, can quite as readily be placed out of doors. Life in the open air is the ideal towards which we strive, but this must also be suitably modified at times to the constitution, illness, or inexperience of the individual. Suitable precautions, of course, should always be taken when adopting the life and later as well. When opportunity for living out of doors is not the easy matter it is here, patients sometimes make too great efforts to get outside and, because of the effort involved, a compromise by free ventilation in their own room would be to their advantage. The patient, when once he has learned the delight and value of living and sleeping in the open, or under conditions of very free ventilation, has sometimes to be restrained rather than encouraged in the amount of fresh air that he should take.

The immediate improvement in well-being with a loss of troublesome symptoms shortly after the treatment is adopted, is very marked, and the patient at once becomes a convert to the mode of life. Because of his education in learning new values about fresh air, and in being obliged to relinquish old prejudices, he becomes at the same time an ardent missionary to his home circle. The value that sanatoria have in promoting more hygienic living on the part of the general public is very great.

When the qualities of really fresh air are realized it inevitably follows that dust, because of its own irritant character, and of its potential infective property, becomes abhorrent to the initiated patient. The sanitary disposal of expectoration and the avoidance of dispersion of possibly infective cough-droplets follows, therefore, as a corollary to accepting the principle of fresh air, quite apart from the education received in these hygienic measures. In developing consistent carefulness as in various other matters of sanatorium life, the example and criticism of fellow-patients is of the greatest value. Because of the training in the restraining of infection and because of the extreme degree of ventilation, there is nothing to be feared in the possible infectiousness of atmosphere of a well conducted sanatorium.

In the discussion of numerous details two points have been frequently referred to in this paper, namely: the crowding of sanatoria with patients who, because of severe illness, properly belong to a hospital; and the need of efficient organization for consistent supervision of all details of life of the patients. An organization reasonably efficient for the needs of an institution which treats only a recoverable class of patients, may be quite inadequate to attend properly to either class of patients when the classes are mixed to the degree that obtains at present.

PROFESSIONAL AND PUBLIC ASPECT OF THE PNEUMONIA QUESTION.*

WILLIAM CHARLES WHITE, M.D., PITTSBURG, PA.

Pneumonia heads the list of those diseases before which our profession humbly bows in recognition of conquest. With an ever-increasing mortality confronting us, especially in large centres, nothing has been offered which is in any degree comforting as suggesting that the tables will soon turn in favor of the human element which is forced to submit annually to this infection.

Primarily interested for the last five years in the great sister lung infection, "Tuberculosis," I have been constantly struck with the fact that pneumonia frequently doubles tuberculosis in the number of deaths it claims per month. Naturally, such a condition of affairs suggests the striking contrast existing between the vast amount of money raised and spent upon the control of one lung disease, while a much more fatal infection is almost wholly neglected. This state of affairs is largely due to our lack of positive knowledge of the conditions surrounding the onset of this infection, the changes by which the body strives to resist the micro-organism, and the factors which co-operate in finally providing so graphic a conclusion as the crisis with which we are all familiar.

We have, however, certain knowledge of a positive character which has been very slow to secure a position in what should be the everyday thought of our profession—certain underlying principles which should govern the handling of every case of pneumonia, and which would go far not only to reduce the mortality, but also to prevent the incidence of pneumonia in other subjects.

Before entering upon this phase I am desirous of calling your attention to some of the difficulties which beset the research worker in advancing in his quest of relief from our present condition of subservience to this disease.

I have yet to meet a laboratory worker in this field who feels enthusiastic in his outlook on the pneumonia problem. Why is this the case? The first great difficulty is our inability to produce in laboratory animals lobar pneumonia as we see it in man. Our com-

*Read at the meeting of Ontario Medical Association, Niagara Falls, May 31st.

mon laboratory animals are susceptible to infection with the commonly accepted pathogenic organism of this disease, *i.e.*, the pneumococcus; but they react to artificial inoculation in widely varying degree from total immunity, such as is found in the pigeon, to severe septicemia, such as occurs in the rabbit, guinea pig, mouse and rat. We are able to produce, it is true, fibrinous exudate at the site of inoculation accompanied by hemorrhage and edema with occasionally increased peritoneal and pleuritic fluid; but this does not mean a lobar pneumonia. One animal, the dog, if the work of Meltzer be confirmed, responds to intrabronchial infection of broth suspensions of pneumococci by a lobar condition similar to the natural condition in the human patient suffering from pneumonia. This may establish a confirmation of the belief based upon bacteriologic studies on pneumonic lungs that the pneumococcus is the main organism responsible for pneumonia in man, and may lead to an experimental basis which will permit of a study of the underlying physiological and biological principles of the onset, progress and cure of lobar pneumonia infection.

A second great difficulty lies in the symbiotic action of microorganisms which surrounds the relation of the penumococcus infection of the human body. The pneumococcus is so continuously associated with other organisms in the normal mouths and so frequently in pneumonic lungs, that more than a suspicion is justified that the secondary organisms have some relation to the virulence of the infection. In this connection I would call your attention to the experiments of Park and Williams (1), who found that mass culture results in more virulent strains of pneumococcus and more frequent entrance of these into the blood strain. Mass culture is obtained by inoculating sputum into broth, allowing this to grow at 36°C. for 24 hours, and inoculating the resulting culture into the animals chosen for experimentation. In this connection the reports of Norris and Pappenheimer (2), of Duval and Lewis (3), and of Buerger (4), on the relation of allied and associated organisms are of great interest. It is possible that the question of symbiosis must be solved before our difficulties concerning lobar pneumonia have cleared away.

The symbiotic organisms are:

Streptococcus pyogenes,
Friedlander pneumo-bacillus,
Staphylococcus aureus and albus,
Influenza bacillus,
Pseudo-diphtheria bacillus, and
Streptococcus mucosus capsulatus.

Anyone who has worked at the isolation and segregation of pure cultures will realize how gigantic is the task here represented.

A third difficulty lies in the relation of the leucocytes to this infection. One of the most striking clinical phenomena in lobar pneumonia is the polynuclear leucocytosis, carrying with it good prognosis varying directly with its degree, and yet a glance at some of the haze surrounding it shows how little we understand it. For instance: In spite of the favorable aspect of a leucocytosis in these cases there is grave doubt that this favorable influence is due to the phagocytic power to which we usually ascribe it, for Rosenow (5) found that 75 strains of pneumococci from the blood in pneumonia were insusceptible to phagocytosis when first isolated, a point associated, as he and others have shown, with virulence of the organism. Rosenow (Loc. cit.) ascribes much of the difficulty in obtaining phagocytosis of virulent pneumococci to a substance contained in the organism which he calls "virulin." This he is able to extract by autolysis in salt solution. Hiss and Zrisser (6), on the other hand, have laid great stress on the attitude of the leucocytes themselves in this infection, and have endeavored to solve some of the difficulties by the use of leucocytic extracts, and within a month or two, Ruth Tunnicliffe (7) has published results of experiments from which she draws the following conclusions:

1st. There is an increase in phagocytic power of leucocytes in mild cases of pneumonia.

2nd. In severe cases the power of phagocytosis is diminished until the patient improves, when it rises above normal.

3rd. There is no specificity in the phagocytic power of the leucocytes.

I must not enter this discussion further, but what I have said will serve to indicate how uncertain is our knowledge on this side of the question.

A fourth difficulty arises from lack of knowledge of the chemical processes which occur in the lobe of the lung which bears the assault of the infection and passes through the stages of congestion, red and grey hepatization, and resolution. In this field our knowledge has within the past few years gained some headway. Most interesting probably is the work of Lamar (8) in the laboratory of the Rockefeller Institute, on the influence of certain alkaline soaps of oleic acid in producing in conjunction with certain sera lysis of the pneumococcus.

We have known for some years that the pneumonic lung under sterile conditions in the thermostat would undergo marked lysis. We have known, also, that the soaps are abundantly present during

this lytic process; also that the soaps are bactericidal for certain bacteria. Lamar has made use of these facts and has found that pneumococci treated with dilute solutions of sodium oleate undergo autolysis much more rapidly and completely, and in the presence of immune sera undergo rapid and complete destruction. Further, that the inhibition which the action of soaps ordinarily suffers in the presence of protein can be prevented by such chemical substances as boric acid. Such mixtures of soaped pneumococci serum and boric acid not only prevent infection, but confer immunity on experimental animals. No increase in phagocytosis is produced. This work throws much light on the lytic processes going on during resolution, but still adds no new light to the question of treatment.

A further question is aroused by the frequent finding of pneumococci in the healthy portions of lungs of those dying from lobar pneumonia. Why, for instance, does one lobe succumb while the others survive, even though the organism is present also in the latter? The whole problem of lung chemistry is a negative and rather dark field; but that the lung tissue has some definite and peculiar chemical composition can no longer be doubted.

One of Hektoen's (9) students, working in his laboratory, thought that lung tissue should form an excellent medium for the growth of tubercle bacilli since these organisms developed in this organ so readily during life. To his surprise he found that no growth could be obtained and that the lung tissue evidently had some baneful influence on tubercle bacilli in vitro. In our own laboratory during the past year we have been studying the influence of autolysed lung extract on tuberculous infection, and find in the extract of autolysed lung some compound, probably a soapy element, which is inimical to the tubercle bacillus, and when injected with tubercle bacillus into an animal confers protection on that animal. So that a better understanding of lung constitution and chemistry will doubtless aid in elucidating many of the problems connected with its peculiar infections.

Again we are confronted by a lack of knowledge of the composition of the serum of pneumonia patients and of those animals which have been rendered immune to this organism. Evidently, as you have all convinced yourselves, the immune sera are questionable in efficacy in those suffering from pneumonia. On the other hand, as Lamar (Loc. cit.) and Tunnicliffe (Loc. cit.) have shown, there is something in the immune serum which is not in normal sera, and also in the serum of the pneumonia patients. We are perhaps nearer a solution of what this substance is from Lamar's studies with soaps and inhibitory substances, such as boracic acid.

Let me now call your attention to certain positive knowledge concerning the pneumococcus which has accrued during the past few years, and follow this with certain suggestions which seem well founded, at least for the suppression, if not the cure, of the disease for which the organism is held responsible.

The most striking bit of positive knowledge is the uniform presence of this micro-organism in the nasal discharges and buccal cavity of practically every city dweller during many months of the year. This is the more striking when we consider that the organisms isolated from these sources in those apparently well, are often of as high virulence as those organisms obtained from the lungs of those who have succumbed to lobar pneumonia. Park and Williams (10) found typical pneumococci present in the throat secretions of a large percentage of healthy individuals in city and country. Longcope and Fox (11) found that during certain months, *i.e.*, December to February, in other words, those months which precede the great prevalence of pneumonia, a large percentage of normal persons harbor virulent pneumococci in their buccal cavities. Leo Burger (Loc. cit.) found that about the same proportion of non-virulent pneumococci are to be found in the mouths of patients suffering from pneumonia as in the mouths of normal individuals, and that practically no differences were to be noted in the percentage of virulent organisms in the mouths of normal individuals and pneumonia cases—79 per cent. in the former and 77 per cent. in the latter.

Secondly, we know that the pneumococcus can live (12) in the dark in dried sputum for 35 days or more; in diffuse light for 30 days; and in sunlight only a few hours. On cloth it will live longer. We are positive, further, that pneumococcus-free persons may acquire pneumococci from positive cases; that handkerchiefs and dishes, drinking cups, etc., used by positive cases, *i.e.*, those harboring pneumococci, are capable of transferring this organism. Cases of house infection of pneumonia are so common to-day that I need only call your attention to it to convince you of the dangers arising from rooms and houses in which pneumonia has occurred.

One of the first gleams of intelligence I had in medicine was a house infection of pneumonia in Toronto, in which a mother and two children living in one room succumbed in succession to a very graphic and virulent pneumonia.

A fact, however, with which all of us are not so familiar is the casual relation which the pneumococcus has to certain of our chronic heart and joint cases. Rosenow, who has made the pneumococcus group especially his field of study, has lately again called attention

to the chronic endocarditis cases that result from pneumococcus infection, and the persistence of these organisms in the blood; and I have lately seen a case of malignant endocarditis in which we were able to isolate pure pneumococcus by blood culture. These cases—chronic pneumococcus, endocarditis and arthritis—take this organism out of the field of acute diseases and enter against it the more serious charge of responsibility for many of our chronic maladies of formerly unknown origin.

Coupled with this phase of the question is the mutability of this organism both in vitro and in vivo. It changes not only in virulence easily, but also in morphology and cultural characteristics by artificial cultivation and animal passage, and this very elusiveness of its nature has contributed not a little to our progress in appreciation of its power against us.

In general it may be said that the pneumococcus has the whole body for its field since it sails with great freedom wherever the blood stream travels, and for this reason is frequently described as a septicemia, but its manifestations are local, and, in addition to endocarditis and arthritis deposits, every specialist who deals with the serous structure sooner or later comes in contact with it in such serious maladies as otitis media, meningitis, bronchitis, conjunctivitis, etc.

Where such facts as these stare us constantly in the face, is it not strange that we are so slow to utilize the knowledge which we already possess of means for suppression. With the results of concerted action by means of education, segregation and fumigation in tuberculosis work before us, it seems probable that we could at least accomplish something by these means in pneumonia. It is commonly objected to this proposition that the two infections are so different that they cannot be handled in any similar manner. This objection, however, does not seem to be valid when one compares the two maladies in the following way:

Both are mainly pulmonary diseases; both the result of organisms constantly present (1, 2, 3, 4, 5, 8) within and outside of the human body; both infections are contracted mainly by inhalation and hastened to their maturity by bad housing, food and hygienic conditions (6); both are accompanied by cough and sputum containing myriads of the infecting agent; both infective through droplet (7) and air dried sputum (7); both often the result of unconscious carriers (9, 10) of infection; both are house diseases; both have no specific cure and rely on hygienic conditions for improvement; both are characterized by relapses (11); both produce sickness (8) in lower animals; both germs are capable of life

outside the body for hours to weeks (7) dependent upon environment; both remain quiescent in the body for varying lengths of time; both are responsible for secondary chronic conditions (12).

It is very likely that we cannot utilize many of the more bizarre attachments of the Tuberculosis Campaign, or even of the more useful methods of this work, such as the dispensary, and yet it seems to me that even the dispensary might be so modified that its visiting agents could afford the greatest service among the poorer classes by education and nursing of even so rapid and graphic a sickness as pneumonia.

Even if such adaptation seems impossible there still remain many things which stand forth with the label of neglected duty tacked upon them:

First, our neglect in educating the public on the positive knowledge we possess of the infective nature of this sickness, the means of preventing its spread, the means of raising the resistance to it—in fact, while we ourselves have known these facts for many years we have not yet grouped pneumonia in the public mind with our other reportable and preventable diseases.

Second, our present methods of handling such patients in hospital wards without segregation of patients and utensils, and without special instruction on its infective nature to our students, house officers and nurses, are most responsible.

This is the more striking in that we have totally excluded tuberculosis, a less infective disease, from our general hospitals, where, as a matter of education, it properly belongs in specially constructed wards, and have retained pneumonia, which is more infective, mainly because the patient is so unable by reason of his severe illness to exercise any precaution. I trust the day will soon come when the constant shutting out from our general hospitals of each malady as it comes into the limelight as a preventable disease will cease, and that we will make proper provision for all classes of cases, so that those who receive instruction in these institutions—nurses, students, doctors and the public—will have the full benefit of the knowledge generated there. So long as we persist in the lopping system of the past few years, and send out such partially trained members of the backbone of our public health restrictions, so long will we fail in our desired end, and our hospitals will become more and more great surgical amphitheatres.

As a plan of procedure, then, I would suggest first of all the proper segregation of pneumonia patients and their utensils in hospitals; cleaning by sprays and washes of the noses and throats of all who nurse and come in contact with these patients; careful hand washing of nurses and attendants after handling; careful

destruction of sputum and other discharges; sterilization of linen of patients; fumigation of rooms after occupancy; and the use of gauze, which can be burned, instead of handkerchiefs. This will be the centre of the educational crusade.

Second. Attached to our dispensaries certain nurses who have received special instruction on nursing and preventing the spread of pneumonia, to be sent to all pneumonia cases in home nursing work.

Third. The reporting of all such cases to the health department governing the district where the disease exists, and the fumigation of the quarters in which the disease has occurred by the department after the death or recovery of the patient.

Fourth. The instruction of the public by pamphlets and school lectures on the necessity for keeping the noses and throats cleansed, especially during winter months; the necessity for controlling the dust of streets by better sprinkling and night sweeping; the evils of bad ventilation in house, public building and school; of alcohol; of badly cooked and poor food; of lack of rest; of worry; of the handkerchief; of the bearing of spitting on pneumonia as well as other diseases; of the increased resistance generated by open-air sleeping; and similar knowledge. This, I am sure, can best be engrafted on the child's mind rather than on that of the adult.

I have merely sketched to you the outline of preventive measures which are demanded by present positive knowledge of a disease for which we have no cure, and which is at present our most mortal enemy.

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Medicine

GRAHAM CHAMBERS, R. J. DWYER, GOLDWIN HOWLAND, GEO. W. ROSS, WM. D. YOUNG.

Rheumatism and So-Called Chronic Rheumatism. T. McCRAE, M.D., Asst. Prof. of Medicine, Johns Hopkins Univ. *Can. Med. Ass'n. Journal.*

McCrae briefly discusses this important subject and calls attention to the many diseases called chronic rheumatism. He states that he has never seen a single impaired joint following an attack of acute rheumatism.

The true causes of chronic arthritis are gonococcal and tubercular infections, other bacillary invasions, gout, arthritis deformans, sacroiliac disease, senile arthritides.

Again a mistaken diagnosis may be made in cases of muscular fibrosis, occupation neuroses, flat foot, neuritis, tabes, syphilis, aneurism.

In connection with the outdoors at the Toronto General Hospital cases frequently attend who have been treated for months for rheumatism, and the reviewer finds that the most usual errors have been in this order: Flat feet, arthritis deformans, gonococcal infection.

Arteriosclerosis and Nervous Affections. A Clinical Lecture. By PROFESSOR VON ROMBERG, M.D.

The professor considers that the functional neuroses, particularly neurasthenia and manic depressive insanity, are the most important causes of arteriosclerosis, from the fact that the demands made on the blood vessels during a lifetime are dependent largely on the behavior of the nervous system. So also toxins which act on the nerve cells will contribute to this result, as for instance, tea, tobacco, alcohol and syphilis.

So then the symptoms of arteriosclerosis and functional neuroses must frequently co-occur, and this paper was written to clear up what is nervous and what is organic in those cases.

Compare in the first place the results of restricted blood supply to the legs or arms, the pallor and numbness, pains, cramps, cold-

ness, all due to vascular hardening, and compare the neurotic disturbances due to vasomotor spasm, similar in nature and leading frequently to similar thickening of the arterial walls.

In cardiac angina the diagnosis is of extreme importance, and one need not repeat the similar symptoms occurring in organic and functional forms. However, if one compares the relation of preceding exercise, or excitement, or even profound sleep; the absence or presence of attacks following preceding difficult energies; the occurrence of diminished diuresis, cardiac dilatation or dyspnoea (note that X-ray and percussion frequently give incorrect statistics); pulse rhythm (especially irregularities, and it may be added here that organic extra systoles are not noticed by the patient); aortic sclerosis with such signs as enlargement and systolic murmurs followed by pronounced second sound in the aortic area; by all these means we may conclude the case to be organic.

Again early signs of interstitial nephritis may be considered to be merely neurotic.

Albumin may be absent and no casts occur, perhaps the only sign of edema being a morning puffiness of the face; but note the second cardiac sound, and the tension of the pulse.

Asthmatical attacks or merely respiratory quickening may be a feature, also migraine, diarrhea, thirst.

Brain arteriosclerosis may completely copy the symptoms of neurasthenia, insomnia, early awakening, cephalic sensations, volitional defect, rotatory vertigo, motor paresis, paresthesias of hemidistribution, and so on.

Functional and organic diseases dependent on vascular origin are therefore difficult and important to distinguish from one another.

The Influence of Parental Alcoholism on the Physique and Ability of Offspring. By THEO. B. HYSLOP, M.D., C.M. EDIN., F.R.S. EDIN.

The conclusions arrived at by Dr. Hyslop are mainly, that alcoholics have larger families than the normal individual, and that these children tend to become alcoholic or show psychoneuroses at an earlier age than their parent, but whether this is due to the intoxicant or to a psychoneurotic parent, is not clearly decided. Also these neuroses are intensified when alcoholic inheritance exists instead of being diminished by new influences. G. W. H.

Reviews

The Treatment of Syphilis By the Ehrlich-Hata Remedy. By DR. JOHANNES BRESLER. Second edition. Translated by DR. M. D. EDER. Published by Rebman, Limited, London and New York.

This book describes the methods of using the remedy, "606," and cites a large number of cases of syphilis in various stages, and gives the results obtained by treating them with this remedy. It is very well written and decidedly worth reading.

W. W. J.

"606" in Theory and in Practice. By PROF. PAUL EHRLICH and J. E. R. MCDONAGH, F.R.C.S. An Oxford Medical Press Publication.

Is an extremely interesting and useful book.

Prof. Ehrlich writes the introduction and tells how and why "606" was produced in the laboratory.

Mr. McDonagh deals with the clinical results obtained in a large series of cases met with in the London Lock Hospital. The book is very instructive and well worth perusal.

W. W. J.

1,000 Surgical Suggestions. By WALTER M. BRICKNER, B.S., M.D., Adjunct Surgeon Mount Sinai Hospital; Editor in Chief American Journal of Surgery, with a collaboration of James P. Warbasse, M.D., Harold Hays, M.D., Eli Moschcowitz, M.D., and Harold Neuhof, M.D. 225 pages. Cloth bound, Semide Luxe, $1.00. Full de Luxe, leather, $2.25. Surgery Publishing Company, 92 William Street, N. Y., U.S.A.

This is one of the biggest little books ever presented to the profession. In its 225 pages are found a collection of 1,000 epigrammatic succinct, virile and instructive hints based upon actual experience, and everyone a lesson in itself.

The suggestions are so arranged and indexed that all subjects covered can be immediately referred to, and the particular hint upon any particular subject immediately found. It bristles with pointed and useful suggestions, which in many cases might just turn the scale from failure to success. Its mechanical presentation

is a feature worthy of mention. It is square, cloth bound, stamped in gold, printed upon India tint paper with Cheltenham type with special marginal side headings in red. A dollar could not be better invested than in the purchase of this book.

Catechism Series. Surgery. Part II. Second edition. Revised and enlarged. With plates. Price, one shilling net. Edinburgh: E. and S. Livingstone.

Well arranged, concise, embracing injuries of bones, fractures and dislocations, diseases of bones and chapters on the thorax and breast, this little catechism will be found a very useful hand-book for students, reviewing a whole lot just before examination time. We would heartily recommend the entire series to students. The revision has made possible the introduction of the very latest points.

Medical Guide and Monograph Series. Golden Rules of Pediatrics. By JOHN ZOHORSKY, A.B., M.D., Clinical Professor of Pediatrics Medical Department Washington University, St. Louis, etc., etc. Price, $2.50. St. Louis: C. V. Mosby Co.

This is a book incorporating therein a great deal of useful, concise and practical information. It consists of aphorisms, observations and precepts on the science and art of pediatrics. It gives practical rules for diagnosis and prognosis, the essentials of infant feeding and the principles of scientific treatment. There is an introduction by Dr. E. W. Saunders, Emeritus Professor of Diseases of Children of the above mentioned university.

The Anatomic Histological Processes of Bright's Disease, and Their Relation to the Functional Changes. By HORST OERTEL, Director of the Russell Sage Institute of Pathology. Philadelphia: The W. B. Saunders Co. Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

Oertel quotes C. Lucillus in his introduction: "That he did not wish to be read either by the very learned nor by the very uneducated; for the latter would not understand him, while the former might possibly know more than he himself did."

There are certain standard works which modern physicians must own, and to my mind it is better to possess a book on each important subject written by an authority, rather than a "System" written by

many authors and necessarily abbreviated. Truly the latter has its value in containing much that is needed for reference, but one requires the master hand to clearly describe in completeness the great subject he has made his lifework. And in this little understood study of the pathology of the kidney lies the key to the knowledge of those clinical cases which we group together vaguely as nephritis.

In the clearest of language, in the same manner that Oertel himself presented his subject through the five lectures he delivered in the New York City Hospital in 1909, there is described here his own views as to the one great disease he calls nephritis, which may be characterized by all the features of degeneration, exudation and productive changes, or be mainly distinguished by the development of one of these processes in excess of the others.

Away goes your framework of acute glomerular nephritis, of chronic interstitial or parenchymatous disease, and you assimilate while reading the well worked results of the master worker and get a new firm background to study your own clinical cases.

Pathology is usually dry reading to the physician, but one can sit down and digest the contents of this volume with more pleasure than the best clinical description, and it is with regret that the last page is reached.

The plates are splendid, the paper is good, but the material is superfine. It is impossible for a student of medicine to be well read on nephritis and to be without Oertel's masterpiece.

G. W. H.

Dr. Luther Halsey Gulick, director in the Russell Sage Foundation, and formerly director of physical training in the New York Public Schools, has written a noteworthy series of articles on athletics in their relation to health, for Lippincott's Magazine. The first of these, "The Requirements of Healthful Exercise," appeared in the June number. That in July is entitled "Games and Gangs." It deals with the ever-present Boy Problem, and will prove a revelation to worried parents and harassed teachers. Dr. Gulick's long and varied career in the fields of hygiene and education renders him well equipped for writing on such topics, and the papers may be regarded as authoritative.

THERAPEUTIC NOTES

LOCAL TREATMENT IN GYNECOLOGY.

Henry T. Byford says that often iodine and phenol are applied to the cervix uteri when not indicated; that abstraction of blood from the cervix in chronic hyperemia of uterus and adnexa is useless and injurious; that glycerine and ichthyol tampons sometimes act as irritants and not of very great efficacy; that the copious high temperature douche is of no practical use except as a cleanser. Medicated douches have a certain value when employed intelligently.

GASTRIC SUPERACIDITY.

G. W. Hall (*Boston Med. and Sur. Jour.*) observes that hydrogen peroxide lessens the hydrochloric acid in the stomach. Patients with hyperchlorhydria get great or total relief from their symptoms. He says it does not appear to benefit cases with active ulcer.

It is an efficient hemostatic in epistaxis, why not in hemorrhage from ulcer of stomach?—Ed.

PERNICIOUS ANEMIA.

Muktedir (*Deut. Med. Wochen.*) gave a tablespoonful of glycerine in a man of 30 years with pernicious anemia, infected with syphilis four years previously. This was given three times a day at first and later on up to 70 gm. The patient seemed to be apparently cured, and the only by-effect was a transient diarrhea.

FLATULENCE.

Le Progress Medicale recommends: Mag. carb, one drachm; pulv. rhei, one-half drachm; ol. menth. pip. minims, twenty; for twenty pills. Two pills to be taken after each meal.

GONORRHEA.

The Schindler treatment consists in the use of atropine in doses up to 3 mgm., in rectal suppository or direct distillation. If atropinism supervenes the drug must be stopped. In addition, strong solutions of protargol (3 to 5 per cent.) cocaine added to deaden the pain. By this the duration of treatment is shortened.

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COMMENT FROM MONTH TO MONTH.

The Standardization of Disinfectants.—Articles have been appearing recently in some of the medical journals of the United States advocating the standardization of commercial disinfectants. A certain amount of doubt has been thrown of late by some sanitarians of the United States on the value of after disinfection, that is the disinfection of houses, rooms and clothing of persons who have died or recovered from communicable diseases. However, the majority of medical men still believe in the need of after infection, and even if they did not do so, the use of liquid disinfectants is indicated in many other ways.

If then it is agreed on all hands that the employment of liquid disinfectants is on occasions essential, it is equally obvious that such disinfectants should possess those germicidal properties which alone can render their use of value. In Great Britain there are means whereby the germicidal properties of commercial disinfectants may be guaranteed to a large extent. In 1903 Dr. Rideal and Mr. Ainslie-Walker devised a method by which the germicidal strength of disinfectants might be tested. The principle of this method, known as the drop method, is simple. Solutions of the disinfectant to be tested are made up in various strengths with distilled water and compared as to their germ destroying action upon,

say, the typhoid bacilli, with a solution of carbolic acid of known strength, say 1 part in 100. Ultimately a strength of the disinfectant will be found which will be identical in its germicidal properties, with the known carbolic acid solution, that is, will destroy the typhoid bacilli in exactly the same time as the latter. For instance, if the solution which does this is of a strength of 1 part in 80, we should be able to state that under the conditions of the experiment, 1 part in 80 did the same work as 1 part in 100 of carbolic acid; its strength might then be set down as 80-100 or 8 as compared with carbolic acid, and this would be its "carbolic acid co-efficient."

There have been various methods other than the Rideal-Walker brought out to test liquid disinfectants, but in England, although it is freely acknowledged that the "drop method" has grave defects, the conclusion has been reached that on the whole it has answered the purpose for which it was devised better than any other. The British Admiralty and Army Department have officially adopted it, as have likewise a large number of sanitary bodies in Europe and Great Britain. But irrespective of its merits which are open to argument, and which many authorities believe are outweighed by its defects, the great good which the introduction of the method into Great Britain has brought about is that it has done more for raising the standard of commercial disinfectants than anything else, and by its employment a number of unreliable products have been eliminated. Its use acts as a security, to some extent, to the public that the disinfectants on the market are really what their manufacturers and vendors profess that they are. On this continent, except in Maryland, U.S., there is no such check on the manufacturers and retailers of liquid disinfectants. If disinfectants are expected to do the germicidal work required of them, there should certainly be means for verifying the statements made as to their efficiency. C. A. C.

The Public Drinking Cup has to go. In Toronto, the Health Department is waging war upon it in schools, parks, play grounds, horse troughs, public buildings, etc. But not alone in these connections, but in hotels, restaurants, at soda water fountains and elsewhere, attention is called to the manifest danger the public runs in its promiscuous drinking.

Some one has called the public drinking cup the "cup of death;" and if observations were to be made and the results of its nefarious work followed up and recorded, it might even prove to be a hydra-headed monster.

The campaign against it is being waged to considerable extent all over the American union. Kansas was the first to abolish it. Michigan, Wisconsin, Mississippi, New Jersey, New York, soon followed suit. Pennsylvania has sounded its warning. Illinois has declaimed against it as a formidable menace, and has driven it out into the wilderness. Chicago has donned its armour and has gone forth to give battle to the Philistine. Connecticut has the co-operation of the intelligent corporations and citizens. After October 1st New York City will have joined the insurgent army in opposition to the long-established custom. Railways, theatres, hotels, factories, are falling into line. The slot machine with the paper cups will supersede the execrable practice.

Newspapers, periodicals, magazines, journals, are lending a strong helping hand, and so a knowledge of the dangers lurking in the common drinking cup is being diffused throughout the land.

It is easily conceivable how tuberculosis, diphtheria, syphilis and other infectious and contagious diseases may be disseminated through the medium of the disgusting and barbarous custom. Concerted action will bring about its total abolition.

The Opening of the New Medical Building of McGill University took place on June 5th, His Excellency, the Governor-General, officiating at the ceremony. The erection of the new building was made possible by the splendid generosity of Lord Strathcona, who presented the site directly facing the Royal Victoria Hospital and accompanying it the sum of $450,000. At the convocation Dean Shepherd was pleased to announce that the High Commissioner had added to this $100,000 for proper and complete equipment. Thus has the disaster of three or four years ago been triumphantly overcome.

The frontage of the building is 265 feet, with a similar frontage on the university campus. On University Street it extends 171 feet, and 114 feet on Carlton Road. It is four stories in height, built of Montreal limestone over steel construction, fireproof.

The occasion of the opening brought together in re-union a very large number of graduates. This was mostly in evidence at the large banquet tendered by the Faculty in the Windsor Hotel on the evening of the 6th of June, in which over five hundred guests participated.

It was at this celebrated and historic banquet that Professor Adami, who knows the medical profession as well as any man could know it, took to task Mr. G. B. Shaw for his rude jibes at the

medical profession. Probably that erratic satirist and playwright received more attention than his drooling warranted. The incident would only serve the purpose of more advertisement—a circumstance very dear to the self-same Mr. G. B. S.

McGill is to be congratulated upon the splendid outcome of its disasters, and all good friends will wish it continued advancement, expansion and renown.

Queen's according to publication No. 3, issued by the Medical Faculty of Queen's University advocates the following reforms in the Ontario Medical Council:

1. *Matriculation.*—The matriculation of the Council should be uniform with the junior matriculation in arts conducted by the Education Department.

2. *Curriculum.*—The universities should be free to arrange the details of the course. The Council should have a simple regulation that every student must spend a period of five years in professional studies in a university, college or school of medicine approved by the Council.

3. *Examinations.*—There should be one final examination at the end of the fifth year. Candidates should be graduates of an approved university. The examination should not be unduly prolonged, and all restrictions should be removed as to those eligible for appointment as examiners. If in place of this final examination any workable system of assessors is proposed, Queen's is quite ready to consider it fairly.

4. *Fees.*—The fee should be reduced materially. Twenty-five dollars or at the most fifty dollars should be enough in place of the present fee of one hundred. The Council should recognize that there is no reason why it should accumulate money, and if it has money to spare it belongs to the profession and should be used in some way to further its interests. If it established some fellowships or research scholarships with the money it now has it would only be doing its duty.

5. *Reorganization of the Council.*—For two reasons the members of the Council should be reduced. First for economy, and second for efficiency. At present there are five homeopaths, eighteen territorial representatives and eight collegiate, of whom five represent defunct medical schools. We suggest that eight territorial representatives, three collegiate and one homeopath, making twelve in all, would be a proper Council. As to homeopaths,

there are only about forty in the Province, so it is out of all reason that their representation should be so great. An enlargement of the electoral districts will meet with the approval of the profession as an economical reform.

The Ottawa Typhoid Fever Epidemic, occurring from January 1st to March 19th has been thoroughly investigated, and the result is an extensive report on the subject.

Dr. Chas. A. Hodgetts, medical adviser to the public health branch of the Canadian Conservation Committee, was at the head of the committee which investigated the outbreak, and with him was associated Dr. R. W. Bell, of the Ontario Board of Health, Colonel Carleton Jones and Major Lorne Drum.

The immediate cause of the epidemic was the infection of the water supply—infected milk, food, supplies of all kinds, including ice, unsanitary conditions and sewage from sewerage system and sewer gas being excluded.

The report states: The outbreak would have been obviated had the hypochlorite treatment been installed forthwith after its recommendation by Mr. Hazen, on October 5th, 1910.

There was nothing abnormal in the last month of 1910, there having only been reported to the Medical Health Officer five cases, but the inquiry elicited the fact that there were five other unreported cases.

Up to the middle of March, there had occurred in 1911, 901 cases, of whom 422 were males and 479 females—the ages ranging from 3 to 75 years.

Fifty-two cases died before March 18th, a death rate of 5.7 per 100. Others died after that date so that the mortality was even higher.

The report is well illustrated with numerous charts and maps.

The horrible conditions depicted are a sad commentary upon the modern sanitary requirements in the slums of a great city.

The Canadian Medical Protective Association held its annual meeting in Montreal, June 8th, 1911. In the absence of the President, Dr. R. W. Powell, Ottawa, Dr. John Stewart, Halifax, presided. All the old officers and the executive were re-elected.

The report of the President was a very brief one. It referred to the fact that there was only one case before the courts during the past year. This was the first case lost by the Association since

its foundation. There were some ten to twelve cases threatened, but the known fact that the Association would offer determined resistance acted as a deterrent.

The solicitor advised the incorporation of the Protective Association and also advised consideration of the extending the scope of the Association so as to cover a wider field, similar to that occupied by the London Medical Defence Union.

The treasurer reported the receipts during the year to have been $2,139.00, and that the Association now had funds in hand to the extent of $6,807.11. Of the total receipts Ontario contributed over one-half, showing that there is great scope for extension of the society in the other provinces.

It is important to point out to those of our readers who are not members of this Protective Association that no one can become a member to enjoy the benefits of the Association when the facts which led up to a suit occurred prior to membership.

The annual fee is only $3.00, payable in January of each year. We strongly urge our readers to become members of this worthy organization.

To Sir William Osler, Bart., the Canadian medical profession extend hearty congratulations.

Dr. H. B. Anderson, Toronto, has returned from Germany, where he spent several months in graduate work.