In *notifications* there has been no break in the diminution even of pulmonary cases since 1918. The following paragraph, which we quote in full, amounts to a serious criticism both of clinical practitioner and medical officer of health.

"There has been further evidence during the year that notification is still incomplete and delayed. In one area the average number of deaths from pulmonary tuberculosis during the five years 1917-21 was 59.2, yet during that period the average number of primary notifications was only 60.6. In one year, out of 55 deaths in that area, 26 cases had not been notified prior to death. With regard to non-pulmonary tuberculosis the case was worse, the average number of deaths being 13.2 per annum, whilst the average number of primary notifications was only 7.8. Yet the Medical Officer of Health was under the impression, until his attention was directed to the figures, that notification was well carried out in his district. It is to be regretted that the full co-ordination which is desirable between the tuberculosis officer and the general practitioner has not yet been attained."

Village Settlements and Training Colonies.

The difficulties here are discussed sympathetically and frankly. It is concluded that no attempt should as a rule be made to change any but an occupation which cannot be made reasonably suitable; that if change is essential great regard should be had to physical and temperamental capacity and to the prospect of ultimate settlement of the patient in his new calling; that care committees should take active interest in settlement arrangements; and that highly competent trainers should be employed to give courses of the nature of intensified apprenticeship. Agricultural work, though frequently desired by ex-service men, is not generally suitable nor likely to yield a livelihood. The critical time comes when the man tries to make a living.

The central fund for the purpose of helping ex-service men is undertaking experimentally the settlement of a group of trained men who would not otherwise find employment, and who, it is hoped, when they have acquired necessary speed in production, may be established as self-supporting workers, with a market found for their goods.

A NOTE ON MEDICAL PRACTICE IN NORTH AMERICA.

BY

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IN the United States and Canada it is becoming increasingly difficult to persuade doctors to go into country practice. The medical graduate of to-day has come through a long and expensive course. He is trained in bacteriology, pathology, and biochemistry, and is accustomed to the use of a variety of expensive instruments. Without them he feels inadequate. Moreover, the practice of a country physician does not frequently call for elaborate diagnosis. The modern graduate going into country practice feels intellectually starved, and prefers instead to set up in the city where his income may be less but his environment is right, and where he is in touch with laboratories, a medical library, and a medical society. It is for this reason that the medical curriculum is sometimes criticized for being too extensive, in the sense that the long course of training is not one which fits the average man for country practice, where his services are most demanded.

The American student of a "Grade A" university is required to study Arts for three years and medicine and surgery for four, after which time he is presumed qualified to sit for his examinations, but a further year as resident in a hospital is necessary before he is admitted to the degree of M.D. He does not enjoy the same personal contact with patients as we do. Teaching over the living subject is confined to ward rounds. Dressings and simple laboratory examinations are done by the residents and nurses. Success in examinations is not so much a matter of chance as it is in Great Britain. The pace of the class is that of the slowest member, and especial attention is paid to the backward student. As long as the student has attended his classes and carried out the prescribed formula he is reasonably sure to pass at the end of his term. This system is open to criticism according to our standards, but it is designed to achieve a higher general average.

Medical training and post-graduate study are particularly well organized at the Toronto University Medical College under the direction of Dr. Graham, University Professor of Medicine. The buildings of the university and the Toronto General Hospital are very fine, the laboratories are modern and spacious and are fitted with every necessity and many luxuries for routine examination, teaching, and research.

The student's course is outlined for him up to the end of his graduation and internship. After that he may serve as a paid assistant and take a course for a number of years in the different laboratories. Later he may obtain a post as part-time assistant while he begins to develop his private practice outside.

This system is thorough, but invites some criticism. The student, who has been on the hospital staff through all his post-graduate training, has been accustomed to have everything he desires—and more than most doctors dream of—always at hand. He is well informed, but his self-reliance has been little exercised, and he is not prepared to face the disabilities of practice in the country. This is a problem of medical education which is exercising the minds of the university professors of North America.

Doctors, even in the smaller towns of the United States, try to keep up to date in medicine and surgery. Their journals are more numerous and more read than are the journals in Britain, as also are the foreign publications, particularly the British and the German. Every town has its local medical society, whose meetings are well attended; papers are read and discussed, and subsequently published in the monthly State journal. Medical science is not advancing at a pace to warrant so much literature, but these papers stimulate local interest and bring a certain amount of publicity to the authors. Many men, particularly in the West and Middle West, leave their practices for a fortnight each year and travel—perhaps 6,000 miles—to and from a medical conference. At these meetings a great many papers are read, and new instruments and equipment exhibited; but probably the most valuable stimulus is derived from personal contact with others.

The American specialist performs many elaborate tests, but the sum of evidence in terms of benefit to the patient is not large. The specialist is conscientious and wishes to leave no path unexplored, hence the enormous number of tests and modifications. The feelings of the patient and the expense incurred are not always balanced against the possible sum of information to be derived. Many of the tests are tedious, their interpretation depends on the personal factor, and their value in many cases is doubtful. It seems to the onlooker that there is a lack of judgement in this wholesale performance. But when the whole procedure is completed the doctor can honestly say he finds no evidence of disease, if he feels so inclined; or, since the human machine is rarely found in a state of perfection, he can attribute all the symptoms to defective teeth or tonsils, organs which, perhaps by reason of their accessibility to instrumental examination, are too often incriminated when the diagnosis is obscure.

Americans are particularly good technicians, hence their natural love of instrumental examinations and tests of all sorts. Their x-ray work is good, and x-ray diagnosis is considered essential to examinations of the chest, abdomen, and bones. Nearly every doctor has a small x-ray outfit in his consulting room, partly for self-protection, because a patient will often sue his doctor when dissatisfied with the result of a fracture, and the doctor is almost sure to lose the suit if he has no x-ray picture of the part.

Patients are notoriously unfaithful to their doctors. Over and over again when I asked a patient who his doctor was I would be given a list of several in the same city whom he had consulted in turn. In this way patients gain a curious insight into medical matters and methods, but they are often bewildered. Doctors are considered fair game in the lawcourts. Dissatisfied patients frequently sue them for negligence, and as often as not win their case. Many doctors, of course, prefer to settle out of court to avoid publicity and the expense of a legal action—a shyness for the limelight which the public recognizes and to some extent trades upon.

Included in the list of men and women practitioners whom the patient has visited there is usually an osteopath or a chiropractor, unqualified medically, but graduated from special colleges in manipulative exercises and assuming the title of Doctor. Their methods are well known. They appeal because they promise speedy cure for all ailments by a few dramatic manipulative effects. The patient experiences relief in proportion to the faith he has in the treatment, and as most of the patients are suffering with some form of hysteria or nervous exhaustion they frequently show temporary improvement and declare that the chiropractor is a better man than the doctor. He is certainly an opportunist, as he studies the psychology of the patient, and he collects a good income in small fees on a cash basis. The chiropractor and osteopath advertise widely,

and into their net falls the credulous public, which dearly loves theatrical effects even if a little suspicious of the performer's integrity.

"Group Medicine."

The "group system," founded by the Mayo brothers of Rochester, Minnesota, has largely modified the practice of medicine and surgery in North America, and may eventually do so throughout the world. The name of Mayo—well known in medical circles—is famous in every city, village, and homestead in the United States and Canada. The town of Rochester, with a population of 15,000, is known in five continents, and bears out the truth of the quotation from Emerson—a favourite one in the Mayo Clinic—"If a man can write a better book, preach a better sermon, or make a better mousetrap than his fellow men, though he build his house in the woods, the world will beat a highway right to his door."

Briefly, a "group" consists of a physician, surgeon, radiologist, specialists in diseases of the eyes, ears, nose, and throat, and a staff of laboratory workers. To this nucleus individual specialists may be added from time to time as the practice increases. All the work of diagnosis is carried out under one roof, but operative work is performed in a hospital or private nursing home.

Every patient is examined physically, the history is taken, and all laboratory tests are performed within the building. Every patient is seen by at least two physicians, each of which writes down his individual opinion. A case requiring special knowledge is seen by a specialist in that branch. Every surgical case is completely examined before operation, and determination of the functional efficiency of the heart and kidneys is made, so that, besides establishing the diagnosis, an estimation is made of the operative and post-operative risk.

There are certain advantages and disadvantages in "group" practice. For the patient it may be said that the group offers better value at smaller cost than individual practitioners and specialists. Owing to the saving in overhead expenses it is possible for a "group" to demand a smaller fee than would be paid for visits to several specialists in independent consulting rooms.

The doctor in a group works on a system, which alone is a great time-saver; moreover, he is relieved of bookkeeping and filing of records, and to some extent of his correspondence. His clinic is a complete unit, and not only does he get his laboratory reports quickly, but he can spend some time himself in the laboratories, refreshing his memory and familiarizing himself with recent developments. He can at all times discuss cases with a colleague whose knowledge in one special branch is greater than his own. He has more time for reading and opportunity for research, and when he goes away for special study to one of the larger cities—as he should for a period in every year—the practice is able to carry on without him, and his salary continues.

The disadvantages of a group system apply both to patient and doctor. The latter, if he joins a group early and without experience in general practice, is likely to become a narrow specialist in his own sphere and to lose the broader outlook.

Routine is good, and is essential to the smooth running of a big institution; but, as is often seen in the out-patient department of a big hospital, an institution may become the slave of its own system. It is the same in "group" clinics. The personal factor is easily neglected, and the patients come to feel they are being regarded as "cases" and numbers rather than as human beings.

Following the success of the Mayo Clinic, "groups" have sprung up in various cities in the United States and Canada. Many of these are prospering, some have failed. It is difficult to analyse the cause of failure, but it seems always to be preceded by internal discord. A "group" is essentially communistic. Personality is lost sight of in the achievement of the whole, and it is only a certain type of mind that is willing to sink individuality for the common good of all.

"Groups" must do big business to cover expenditure, and at the present time they are to be found only in the larger cities.

"Group clinics" are not popular in university towns. They are felt to be in opposition to the universities, to the men on their staffs, and to the graduates who leave to take up individual practice. In the same way they are sometimes resented by country practitioners, whose wealthy patients may be drawn away to well known clinics to have more thorough examination than the individual country physician is capable of; mostly, however, these clinics are found to be working in friendly co-operation with the general practitioners.

The Battle Creek Sanitarium.

At Battle Creek, in the State of Michigan, there is a medical institution—"sanitarium" so called—which caters for the jaded business man, the mental wreck, and the chronic

dyspeptic, besides any cases of organic disease which may come to the clinic. The institution was founded in a modest way by followers of the Seventh Day Adventist faith many years ago. From the time of its foundation to the present day it has grown immensely in size and wealth, and has moved away from the religion but still retains one of the tenets of the faith—vegetarianism. Vegetarianism is not part of the creed of the faith, but it is included in the doctrine of "right living," together with excommunication of tobacco, alcohol, and stimulating beverages such as tea and coffee.

Battle Creek Sanitarium can accommodate about 600 patients, and it is popular among well-to-do Americans. Exercise, simple food, and regular hours are the principles of the institution. There is a large and well organized staff of doctors. Each patient on admission is examined, and a programme of treatment is drawn up to suit the particular case and correct the disease. In the basement of the main building there is a physiotherapy gymnasium equipped with every known variety of vibrator and massage appliance, and on the floor above there are various kinds of baths with a large staff of attendant masseuses. A routine which provides healthy occupation for the mind and body throughout the day is prescribed for each patient. In the morning baths and exercises are taken; in the afternoon gymnastics, a walk, or a game of golf; in the evening after dinner there is club swinging and a march round to music, followed by a lecture or concert. Smoking is prohibited, and everyone goes early to bed.

The Battle Creek Sanitarium authorities believe in the Metchnikoff theory of intestinal intoxication. They hold that a vegetarian diet is the natural diet of man, that *B. acidophilus* and other fermentative bacteria of the sanitarium group are the normal flora of the intestine, and that toxæmia follows on absorption of the products of protein putrefaction. Accordingly the diet is an important factor in treatment. Especial attention is paid to cleanliness in the kitchens, on the top floor of the building, where the food is prepared almost without handling and the fruits are washed in antiseptics. The institution has its own market garden, chicken farm, and herd of dairy cattle. The milk and butter are sterilized, and the butter is salt-free. A good deal of the milk is reinoculated with a pure culture of *B. acidophilus*, and is kept on ice when curdled. Every patient has a stool examination on admission, and a somewhat crude estimate is made of the relative numbers of putrefactive and fermentative colonies. Further examinations are made from time to time until there is a satisfactory preponderance of colonies of the *B. acidophilus* group. But a vegetarian diet alone is not always enough to foster the growth of this delicate organism. In some cases it is necessary to add to the diet dextrin and maltose, which leave an undigested residue in the colon suitable for the growth of *B. acidophilus*. Other patients take cultures by the mouth, and many drink the fermented milk with their meals. For obstinate cases, or to save time, resort is had to colon irrigations and high enemas impregnated with living cultures.

All hospitals in North America employ one or more dietitians—girls trained in food values and preparations—who calculate the respective food properties and supervise the individual patients' diets according to general instructions from their physicians. Battle Creek, besides employing a number of girl dietitians, has a large dietetic training school of its own, which is highly esteemed and which sends out graduate dietitians all over the continent. Each patient at the sanitarium is in charge of a dietitian. The menu card is a long list of foods, with the weight, the calorie, protein, fat, and carbohydrate value of each item shown on the margin. The dietitian indicates on the card the dishes she has selected for her patient, and the card is left on the table for the patient to see and discuss with the dietitian if he wishes to do so. The dietitian acts under the instructions of the physician, who changes the diet from time to time as the case continues under observation. Patients invariably leave the sanitarium well satisfied and in good health. Many return year after year for rest and treatment. It is a matter for conjecture how much of the good effect is due to the carbohydrate diet and the *B. acidophilus*, and whether it is not all due to the healthful influence of a well ordered life; for a holiday of rest in quiet surroundings with simple food, exercise, early hours, and suppression of stimulants will benefit the neurasthenic patient apart from any other influence.

The routine of Battle Creek is designed to repair the damage done to shaken nerves by the wear and tear of civilized life, but this care of the neurasthenic, while the greatest, is only one side of the sanitarium's activity. An increasing amount of surgery is done, and the deep-therapy x-ray section, under the direction of Dr. James T. Case, is of the best in America. Careful examination of the patients on admission separates patients with functional from those with organic diseases, and the latter receive appropriate treatment while participating as far as possible in the general routine.