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ORTHOPEDIC SURGERY.

CLARENCE L. STARR, M.D.

Your Lordship, I have been asked to present this morning the subject of orthopedic surgery, largely because it is the department of scientific medicine which takes care of a large percentage of the cases which the so-called irregular practitioners or practitioners of other systems, such as mechano-therapy, osteopathy, and so on, have come under their observation from time to time.

It aims at so qualifying men that they may be able to take advantage of mechanical methods of treatment, such as massage, hydro-therapy, etc., when it is of advantage to the patient, and at the same time to withhold mechanical treatment when it may be of no value, or even harmful.

With regard to the subject of state control in the various special departments of medicine or surgery, as was spoken of by the last speaker, it is my opinion, your Lordship, that this can be better controlled by the medical profession itself than by any legislation. In the case of orthopedic surgery, for instance, it is absolutely essential that a man have not only the regulation five years' training in college, but that subsequently he should spend several years further in special clinics where this work is done on a large scale in order that he may prepare himself for such specialty.

^{*}This series of articles represents the views of different members of the profession, as laid before His Lordship, Mr. Justice Hodgins. K.C., Medical Commissioner, in the investigation that has been under way for the past two months or more, and we feel gratified to be in a position to give our two months or more, and we feel gratified to be in a position to give our treaders throughout the Dominion the benefit of such interesting material.



It is quite possible, of course, for a man, immediately after his graduation, to attempt to specialize in this or in other departments, but it will be impossible for him to convince his colleagues or other members of the profession that he has any special qualifications for such specialty; and as he is dependent on these men for his practice it largely prevents such an occurrence taking place.

Another safeguard in the same direction is the fact that in order to get recognition in a special branch a man must become a member of some organization that is comprised of a number of men practising the same specialty. For instance, if one wishes to be recognized as a first-rate orthopedic surgeon he must almost necessarily become a member of the American Orthopedic Association; and in order to secure membership in such an association he must have practised for five years after graduation and have shown himself to have attained scientific eminence in this special branch. He must produce evidence of such attainments. He must have a high standing among his colleagues in the section in which he lives. He must have published a series of articles on this special branch of a distinct type such as will pass the members of the Standing Committee.

Such safeguards as these, your Lordship, make it impossible that a man should attempt to practise a specialty without proper qualifications, and safeguard the public without special legislation.

The Commissioner: Is there any such association as you speak of in Canada, Dr. Starr?

Dr. Starr: There is none in Canada, your Lordship, because there are practically very few men practising this department of medicine here. Most of us in Canada who are practising this particular branch of surgery are associated with the American Orthopedic Association, as we find it to our advantage to mingle with our confreres across there in order that we may get the benefits of the work being done by them owing to their increased facilities.

- Q. That association is composed of physicians who are practising orthopedic surgery?
 - A. Yes; in Canada and the United States.
 - Q. Does it prescribe a course?
 - A. No.
 - Q. Does it examine?

- A. No, your Lordship. When a physician makes application for membership in that association, that application is passed upon by a membership committee. They consider the qualifications of the applicant—that is, the scientific work that he has done in this department since the time of his graduation.
 - Q. How do they find that out, Dr. Starr?
- A. By his writings, by the work he has done in his particular district and by contact with, and inquiry of, men in his district as to the type and character of the work that he has done. I might point out to your Lordship that work of this kind cannot be hidden. If a man is doing any work of moment it is known to his colleagues. Take, for instance, our own work in the Children's Hospital. We have worked out a system of prevention of deformities and of correcting existing deformities which we feel is distinctly in advance of the work that is being done by other members of the profession.
- Q. The association does not lend any lustre to the name of the man who does that good work—if it is good?
 - A. It does, indeed, your Lordship.
- Q. Because he only gets there because he has qualified himself; that shows he is qualified? Now if that be so, Dr. Starr, what is the benefit of membership in that association unless they have a standard of examination and some way of testing it?
- A. They have this test, your Lordship, which is much more adequate, it seems to me, than an examination. The applicant for membership in the association has to pass in the opinion of his colleagues a high standard in that particular department. He has got to come up to a certain standard of scientific attainment, and if he does not reach that high standard of attainment he is turned down for one or two years' further study in foreign clinics, and it is suggested that that course should be pursued.
- Q. Take a concrete case. If a man in Toronto wishes to obtain membership in that association, he might be regarded here as thoroughly qualified and eligible for membership, but the association would not make any inquiry as to the opinion of his medical friends here, would it, as to his qualifications or attainments?
- A. His qualifications, your Lordship, are judged by a jury of his peers—men who are amply qualified to judge as to whether or not he has reached or attained a sufficiently high

standard to warrant his being accepted as a member of that association.

- Q. I should think that a jury of his peers in Toronto would be by far the better way of deciding as to his qualifications. They would know more about it, I should think.
- A. The men doing that special departmental work are not in Toronto. You might be able to find four men here, but no more.
- Q. How can that association ascertain what that man's qualifications are over here, Dr. Starr?
- A. Well, your Lordship, take my own case. My work in the Children's Hospital here is sufficient. They know the work that is done by myself here, and they inquire into the results of that work. That is sufficient in itself, besides what scientific articles have been published in the journals of Canada and America.

Now in presenting my part of the question to-day, my object was to show your Lordship the advances which have been made in orthopaedic surgery within comparatively recent years, and to point out to what these advances may be ascribed. It seems to me that the advances made similar to those in general surgery -and you know what these are, sir-have been largely due to medical research, to an increasing knowledge of etiology and to a thorough study of the cause of diseases. The etiology that is the cause of the diseased condition in chronic forms—is coming more and more to the front as a distinctive branch of medicine. For instance, it was from this source, sir, that the contagious and infectious character of infantile paralysis was first demonstrated. That has resulted from much research work along this line. Now the extension of this malady which is one of the most fearful in causing deformities that we have to do with-is limited, and can, in fact, be more or less prevented.

Cases of chronic arthritis frequently come under the observation of such systems of treatment as those practised by the osteopaths or allied branches of healing. Demonstrations have proved that these chronic infections, which were at one time all classed under the term of rheumatism, are due to a series of infective agencies, a great many of them produced in mouth cavity or in teeth cavity, tonsils, in the structures of the tonsils, in the sinuses of the face and nose, carrying infection through the blood-stream to the joint. This infection invades the

various joints of the body and causes the disturbances which arise.

But the point that I want to make, sir, is that it makes all the difference in the world what type of infection is present as to what method of treatment should be meted out to such a case.

- Q. How are such cases treated by the osteopaths?
- A. They are all treated alike, your Lordship.
- Q. As being what?
- A. Well, as I understand it, they are all classed as maladjustments or faulty adjustments of the bone.
 - Q. They are not treated as rheumatism?
- A. They are not treated as rheumatism; they are not treated as infectious. That is the main point I want to make. These cases are treated as subluxations or dislocations. That is a mechanical condition, not a condition produced by definite organisms. These cases have to be treated according to the etiological factor. You have to eliminate the infectious origin, and these people cannot, in a great majority of cases, carry out the treatment which should be adopted in that particular case.

Now the second point I wish to make, sir, is that the pathological conditions are being increasingly studied. The study of pathology teaches us that the diseased condition results from the introduction of these various organisms and different types of infective agencies into the parts which may be affected, and assists us very materially in administering the proper treatment.

To illustrate what I mean, permit me to instance two types of cases and their treatment.

For instance, a tubercular disease of the joint is known to invade the bone, not the joint structure itself, but the bone tissue underneath the joint, undermining the cartilage and destroying the bone tissue underneath; whereas in a case of, say, toxic arthritis, resulting from infection from the mouth cavity, there is produced a lesion of the cartilage itself, not an undermining.

Now one does not have to be a prophet, or the son of a prophet, to see that the treatment given in one condition will be absolutely fatal to the other condition. That is to say, if a joint surface is undermined and manipulation of that joint is undertaken, the joint will be destroyed; whereas in the other case, with the adhesions of the joint surface, to give any manipulation.

latory treatment of that would be to the betterment of the condition.

Now the point I want to make there is that unless a man has sufficient preliminary knowledge and sufficient anatomical knowledge and sufficient pathological knowledge of the condition, he cannot differentiate the tubercular lesion from the infectious one, and the consequence is that the patient is going to suffer, is going to be injured instead of benefited.

I can produce instances, your Lordship, of cases of tubercular joints which have come under my notice where the condition has been made infinitely worse by manipulatory treat-

ment at the hands of a practitioner of that class.

Now the foundation of chiropractic teaching, as I understand it, is that the diseased condition is due to a displacement of spinal bodies. I can instance one case where a chiropractor, in his endeavor to correct a supposed displacement, broke down a fibrous healing of a tuberculous spine, and the result was immediate paralysis of the patient, by pressure on the cord, from that point down. I maintain, sir, that if that man had possessed an adequate knowledge of pathology and a knowledge of the etiological factor in the case he would not have made that mistake. That is a case that ought to have had absolute fixiation and absolute rest—no massage or manipulatory treatment of any character.

Q. But do not the regular medical practitioners sometimes

make mistakes, Dr. Starr?

A. Not very frequently in that type of case, sir. That is a case that ought to be about as plain as the nose on one's face. The real point at issue, however, your Lordship, is that these osteopaths claim it is not necessary to differentiate one type of case from another, and hence the foundation of their methods must be wrong, as instanced. On the other hand, in our department an effort is made to earlier and more accurate diagnoses, and I hinted at that speaking of the pathological condition. A man must, by proper preliminary education and study, be able to differentiate between the various types of joint diseases, because what might be a valuable therapeutic measure in one case may be useless as well as disastrous in another case.

Just one further point, sir, and that is with regard to the treatment of these conditions. There is nothing, absolutely nothing, in the system maintained and practised by osteopaths and chiropractors, or bone-setters, that is not within the knowledge of all regular medical practitioners, particularly the prac-

titioner doing orthopaedic work, and what is of value is daily being utilized. The services of a trained masseuse or masseur are always available; they take no responsibility for the diagnosis of the condition, but they do the mechanical work which is prescribed by the practitioner, so that as far as that element of the case is concerned it seems to me that with the one we have all of the advantages and none of the disadvantages.

I thank your Lordship very much for your attention.

MEDICAL CONDITIONS AT THE FRONT.

HERBERT A. BRUCE, M.D.

I was asked to say something, your Lordship, with regard to medical conditions at the front. From an observation of the injuries and wounds occurring in the present war the question arises: How would these injuries be treated by men who are not versed in the practice of surgery? What chance, for instance, would a man have with a hemorrhage from one of his blood-vessels if a surgeon were not at hand? If he had a serious injury to one of his limbs, crushing the nerves, muscles and bones, and was suffering from pain and shock, what help would one of these irregular practitioners, who do not believe in drugs, be able to render such a man? What condition would that poor fellow be in?

And then we have the very extensive injuries to the brain, necessitating trephining of the skull, and provision for drainage. What help could such a patient hope to obtain from a man who had not a first-class knowledge of surgery? Again, injuries to the spinal cord, such as are produced by projectiles of various forms—bullets, shrapnel—where the projectile has penetrated the cord, surely in a case of that sort surgery has been able to demonstrate its value. Again, I would ask what help could these poor, unfortunate fellows hope to obtain, under these circumstances, from any of the forms of treatment that we designate as "irregular"—osteopathy, chiropractic, and so on?

At the front one of the most serious conditions that surgeons are called upon to treat is septic wounds—wounds that have become septic in consequence of infection. Now in order to

treat these wounds intelligently and satisfactorily one must have a preliminary knowledge of bacteriology, a knowledge of pathology, a knowledge of chemistry, and a knowledge of practical surgery. I think the results which have been accomplished during the latter months in France in the treatment of these septic conditions have shown a great advance over anything we have been able to attain heretofore, all due to the scientific handling of these conditions. These are things about which the

osteopath and the chiropractor know nothing.

A former speaker referred to the epidemic of typhoid fever which has obtained in former wars, and I would say further that not alone typhoid, but typhus and cholera are generally considered to be the concomitants of every great war. has been our experience in the present war? We have now been at war fifteen months, and we have had no epidemics of typhoid, of cholera, or typhus in France; and this is due to the skill and scientific knowledge of the medical men who have had charge of the medical arrangements of the campaign. There has been typhoid in Serbia, simply because they did not have sufficient medical knowledge to enable them to cope with the trouble. This war, your Lordship, has been a revelation to the world in showing what tremendous advantages we are able to enjoy by a full and complete application of scientific methods in the practice of medicine and surgery. We employ massage, mechano-therapy, electro-therapy, hydro-therapy, and all other forms of therapy that will be of any advantage or benefit to the patient.

- Q. What is therapy?
- A. Treatment.
- Q. Simply treatment?
- A. Yes, your Lordship.

And I might say here that I saw no cases at the front that could be helped by the knowledge which I believe is generally possessed by graduates of these various irregular schools. It is essential that we should have the ability to diagnose before we can properly apply any treatment to disease.

I would like to read you an extract taken from the curriculum of the Central School of Osteopathy, page 34, under the heading of "Requirements for Admission":—

"They say one cannot be too highly educated, yet between sixty and eighty per cent. of the more than five thousand osteopaths now in the profession did not have the advantage of a high school education, yet a good per cent. of these are successful osteopaths; and, if they would follow the Golden Rule, they would not vote to bar anyone from having the same chance as themselves. It is a well-known fact that those who started the first osteopathic school were not college or high school graduates. The laws of Missouri do not require that a graduate of osteopathy have a high school education; in a few States, however, this is required, and the preliminary educational requirement depends upon where the student desires to practise."

On page 43 we find:--

"These cautions are thrown in here because it is evident from osteopathic periodicals, where the experiences of students and practitioners are expressed, that when the commercial and selfish spirit prevails, students are bled at every corner for all that can be drawn from them and value received is not considered."

"In 1909 the Legislature of Massachusetts passed a law requiring osteopathic physicians to pass the same examinations as are required of the graduates of all medical schools."

Quotation from the National Journal of Chiropractic, page 8:—"In the beginning of our practice we find many cases— These should be looked many diseases which are new to us. up in your text-books until you become perfectly familiar with the disease met with. For instance, a patient comes to you and That evening locomotor says that he has locomotor ataxia. ataxia should be looked up in your books, and you should make yourself perfectly familiar with the cardinal symptoms of that The next case of locomotor ataxia that comes to you will be treated by you with much more intelligence, for you are more familiar with it. I also want to say a word with regard to diagnosis. The large majority of patients who come to a chiropractor know before they come what they are suffering from. A diagnosis is not an essential. Occasionally, however, you will find one who has no idea of what his trouble is, and it is necessary for us to find out. According to the fundamental principles of chiropractic ninety-five per cent. of all diseases is caused by subluxation of vertebrae. If a patient has liver trouble there is a subluxation of the fourth dorsal vertebra, or he couldn't have liver trouble. There is no credit Tuberculosis in its obtained by taking incurable patients. advanced stages is incurable. As far as we know, we have nothing to gain, but much to lose by taking such patients. You had better let them stay with their family physician, who can do them some good, than fool with you, with the chances that you will do them no good."

The position I would take in regard to the situation is that every person who is registered as legally entitled to treat the sick shall comply with the same educational requirements, both

preliminary and scientific.

It should be unnecessary to argue that before rational treatment can be given that a thorough preliminary knowledge of the underlying fundamental principles is essential before it can be intelligently and safely carried out. A thorough knowledge of the structure and functions of the body in health as well as the conditions producing changes in these, that is to say, disease, is essential. Before intelligent treatment can be given it is, therefore, necessary to have a proper training in anatomy, physiology, pathology and pathological chemistry, organic chemistry, physics and bacteriology.

When all these have been thoroughly mastered it is then time to consider the therapeutics. It is necessary to have a thorough clinical training in order to recognize the various diseases, because it will be quite obvious that before any plan of treatment is undertaken one must recognize the disease which

one is called upon to treat.

PHYSICAL THERAPEUTICS.

CHARLES R. DICKSON, M.D.

I desire to submit some data, your Lordship, in regard to the status of physical therapeutics and its relation to this Commission.

Physical therapeutics, physical therapy, or physiotherapy, as it is variously termed, may be defined as the employment of electricity and other physical agents and methods in the diagnosis, treatment and prevention of disease, injury or deformity of the body. Among the chief physical agents thus employed, in addition to the various forms of electricity, XV-rays, ultraviolet rays, radium rays, may be mentioned water in the form of applications and baths of various sorts and temperatures,

external and internal, air of various temperatures and conditions prescribed as baths, or as climate, light, natural and artificial, heat, cold, and diet. Among the chief physical methods employed are exercise, active or passive; whether manual, as by massage, Swedish movement, or other manipulations; mechanical, as by vibration and exercisers of various sorts; also numerous manipulative and mechanical methods for correcting deformities and for influencing the various functions of the body. We may likewise include in this category suggestions made to patients to aid them in regaining a normal condition of health.

This list does not contain all the measures employed in physical therapeutics, but should suffice to show the scope and variety of the measures available. No mention of drugs, medicine or surgery is made in this list, but it does not follow that they are regarded as useless by those who employ physiotherapy. It means that many diseases, but not all, are curable without the aid of medicine, as the laity understands that term. This fact is acknowledged freely by the regular medical profession. The representative of the Ontario Medical Association has already testified that physical measures are recognized and employed by its members. And this recognition is of no recent date, as will be seen from the following facts.

The College of Physicians and Surgeons of Ontario, without whose license no one may practise medicine or surgery in this Province, and which is now being attacked on this score, was organized in 1866. The late Dr. John Robinson Dickson, of Kingston, my father, was its first president. He was acknowledged to be a physician of the first rank and a surgeon of eminence. For many years before his death he was Emeritus Professor of Queen's University. As medical superintendent of Rockwood Asylum he revolutionized the medical treatment of the insane. The opinion of such a man on medical questions should surely be of importance, and he was a firm believer in the value of electricity as a remedial agent, and did not hesitate to employ it in his practice. Nor was he alone in this belief.

I came to Toronto twenty-six years ago to devote my entire attention to the use of medical and surgical electricity, after several years of general practise in which I had employed electricity as well as medicine and surgery in suitable cases. Not that I considered it a panacea, but because I believed it often gave relief where other measures failed, and frequently proved a valuable aid to ordinary methods of treatment. My plan was to work in harmony and co-operation with fellow medical and

surgical practitioners, on strictly ethical lines. I believe I was the first regularly qualified medical practitioner in Ontario to do this, otherwise I would not go into these details; but I think that my experience may be of some assistance in this matter.

A couple of months after coming to Toronto, at the request of the Board of Trustees of the Toronto General Hospital, I instituted and conducted a Department of Medical and Surgical Electricity there. Shortly afterwards, I performed a similar service for the Hospital for Sick Children, and when St. Michael's Hospital was organized my services were again utilized.

The leading British hospitals are fully equipped with apparatus for physiotherapy.

In the United States there is an association devoted wholly to the cultivation and promotion of knowledge in whatever relates to the application of electricity and other physical measures in medicine and surgery. Only regularly qualified practitioners of medicine and surgery, who must be graduates of recognized medical colleges and members in good standing of their national and respective state medical societies, can become active members of this body, known as the American Electro-Therapeutic Association.

We have heard a great deal about osteopathy, chiropractic, manotherapy, drugless medicine, and Christian Science, as a means of healing our poor bodies, and there is no doubt that each may do much good. With this no one should find fault. But we believe that most of them are based on erroneous principles, and we do object to this, if these principles are to be taught in colleges here.

It is a very poor handful of chaff that does not contain at least one grain of good wheat. Now these grains can be picked out of all these handfuls and utilized, while the chaff is thrown away; and this is being done. One is quite safe in saying that there is nothing which these various cults have accomplished which cannot be accomplished at least equally well by rational recognized physical measures.

Physical measures will not cure all diseases, nor will any of these other cults. Many diseases must still be dealt with by medicine and surgery. Physiotherapy is merely one of the specialties of the practise of medicine, to be used in harmony and co-operation with that practise.

The trouble is that while many prominent physicians and surgeons and many hospitals admit that physical methods are of value, very few appreciate the full extent of their usefulness, and the bulk of the profession know nothing whatever about them, nor how to employ them properly. The reason for this is that our medical colleges have hitherto failed to give lectures on physiotherapy, and their graduates have had to rely on reading such books as were obtainable for their knowledge of this subject. As a result of this, their sometimes dissatisfied patients have sought the services of one of these "irregulars" for relief when physiotherapy might have retained them on the physician's visiting list.

An ideal solution of the whole difficulty would be: First, settle on a satisfactory definition of medicine and surgery, and what constitutes a practitioner of these, bearing in mind that air, water, light, heat, cold and electricity are medicines, and

very powerful ones.

Next, establish a college where physiotherapy may be taught on a thoroughly scientific basis, with preliminary instruction along customary medical lines, and access to hospitals and laboratories.

Then, let enlarged powers be granted the College of Physicians and Surgeons, and let it compel every medical student to pass an examination on physiotherapy before being allowed to practise medicine of any description. And give this body full power to prosecute offenders.

To those who do not desire to practise all departments of physiotherapy, but only wish to give massage, for instance, a complete medical training would, of course, be unnecessary; and the same rule would apply to those restricting themselves to the giving of baths, or similar minor branches.

Meanwhile, there are in this province some persons who have become skilled in the use of certain physical agents, such as some of the safer varieties of electrical currents, but are not qualified practitioners. Provision should be made to respect the rights of these people in any legislation that may be devised.

Provision should be made in all medical colleges for the

scientific teaching of physiotherapy to all students.

Now, just a word, your Lordship, with reference to X-rays. X-rays are being used by a great many people in the city of Toronto, and it is a very dangerous thing to use. opinion is that none but regularly qualified medical practitioners should be permitted to use the X-ray for diagnostic or therapeutic purposes. Some of my dearest friends, men of high standing in the profession, have died as a direct result of

using the X-ray. I might say, your Lordship, that my present condition of blindness I ascribe to excessive use of X-rays in the early days, before we knew as much about it as we do now. You can see what this dangerous agent has done even to medical men. X-rays are just as dangerous as strychnine. You might as well permit these people to give strychnine in large doses as to allow them to use X-rays. Restriction should be placed on these things, and that, in my opinion, would be a solution of the whole question.

TORONTO UNIVERSITY HOSPITAL LOCATED AT SALONIKI

Dr. C. K. Clarke, Dean of the Faculty of Medicine, University of Toronto, has received a letter from Surgeon-General Roberts, commander-in-chief of the University of Toronto No 4 Canadian General Hospital, under date of November 28th, of which the following is an extract:

"The original orders read that we were to embark at Southampton, where all our goods had been collected in the advance depot of medical stores. We sent a working party of 50 men to Southampton, and they loaded about half of the stores on a transport that had been assigned for our use, when suddenly an order was issued that the stores were to be removed and loaded into trains. were then sent to Devonport, and finally we received orders to entrain at 11.30 on Saturday evening, Oct. 16. Up until this time I was of the impression that my nursing sisters were to come with me on the ship, but on arriving at Devonport I found that no provision had been made for them, and after hunting around I managed to secure the information that the probable intention was to send them after us in a hospital ship. During the voyage we were blessed with particularly fine weather. We touched at Gibraltar. then went into Malta for orders, where we remained for five days. and were then sent on to Alexandria, Egypt. Again we had to unload all our equipment and personnel from the boat, the former being piled on the docks, while the men were allotted to a rest camp on the outskirts of the city, the officers being billeted in various hotels. Knowing that the headquarters for all operations in the Mediterranean was likely to be situated here, I made enquiries and found where the chief medical officer of the whole force had his office. I took occasion to call on him as soon as possible, and found him, fortunately, to be one of the most capable English officers with whom I have had to deal. We went into the whole subject of the unit, its field of usefulness, and he is the first man I have met since leaving home who seemed to appreciate and welcome what the University has sent out for service. He at once arranged that we should proceed to Saloniki by a hospital ship, and in a day or two we were ordered to reship our equipment and embark on one of the Castle liners acting in that capacity. He also got the wires busy for me and located my nursing staff, who in the meantime had been flying all over the Mediterranean and Ægean Sea in another hospital ship. He issued orders for them to be taken from the boat on his return to Malta, and this was done. He also accompanied us to this point, and from my first introduction to him has done everything in his power to help us to get away to a good start.

LANDED AT SALONIKI.

"We landed on Wednesday afternoon, the 10th of November, and immediately proceeded to the camp site that had been allotted to us on the main Monastir road, about four and a half or five miles from the city. We were the first general hospital to arrive on the ground, and consequently have got what I think is by far the choicest location available. The local base officers, with whom we have to deal, found it necessary to ask us to receive patients the day we arrived, so we admitted about 40 on Thursday night, and the stream has kept up ever since. You can imagine what this meant. Pitching the canvas, unpacking the goods, equipping every tent and bed, was no small matter; but it was done with so much enthusiasm and cheerfulness that at the end of five days we had practically the whole of our canvas up and equipped. days we had 250 patients, and at the end of the week we were up to what has been our average ever since, viz., 450 to 650. The ordinary about the latter number are occupying our beds. routine of general hospital work has been carried on from the outset without a hitch, and our daily admissions vary from 40 to 50, to, on one day, over 200, and the discharges to duty and to the hospital ships average from 30 to 70 or 80; so you see we are getting at once into the constant grind which it will be from now on as long as the hospital is established, taking the patients in one door, sorting them out, administering to all their needs, sending to the hospital ships those cases that are suitable and must be returned, and holding for treatment those who will be available for duty within a reasonable length of time.

RE-UNITED AT LAST.

"My dear Dean, I cannot tell you how glad we are to be at this work as a unit. Can you realize that this is the first time since we stepped off the boat in Plymouth harbor, the end of May last, that all the members of this unit have been together, and that this is the first opportunity we have had of working as a unit? This fact. in itself, is very gratifying, and it is enhanced by the feeling that we are on the ground floor here so far as future work is concerned. Goodness knows what the future has in store along the line of military development, but it looks now as though this were going to be a busy spot, and if anything turns up we are sure going to be in the midst of it and have our fondest hopes realized regarding the quality and quantity of the work that is to come to us, and the unit will have a chance to show the scope of its possibilities. Up to date we seem to have created more than a favorable impression on the minds of all the staff officers here, and as a result we have no difficulty in securing their co-operation and help in anything they can do to make the settling down process run as smoothly as possible. Of course, even at best, things are pretty rough just now. We are living in tents, and if you could look out to-day or could have been here yesterday and lived through the rain first, then the wind, and to-day the snow and sleet, and waded through mud above your ankles, you would perhaps realize that we are not running a Toronto General Hospital nor sleeping in a bed of roses.

IT IS WOMEN'S WORK.

"As soon as I knew that I could look after the girls, I asked the general to send them along. Sixteen of them arrived about ten days ago, and the remainder on Tuesday last. They are in excellent health, with the exception of one or two who are bad sailors and show the effects of a rough passage which they had from Malta. They at once went on duty in the wards, and, believe me, it was a joy to have them. The men are all right in their place, but I am firmly convinced that their place is not in the wards looking after No one can do that like the nurses. We have them sick men. housed in big Indian-pattern tents, with double walls, each of which accommodates four very nicely, and they all seem to be very comfortable and contented. Everyone is pitching into the work as though their lives depended upon it, and they are certainly looking after all the men who come in in a way that I am sure would compare favorably with your standard in the T. G. H. At any rate, we are doing everything under the sun that we can for everyone who comes in, and trying to send them out better, if possible, and, if not happy, contented and satisfied that we have done everything that lies in our power for them.

"Our greatest need at the present time is an adequate water supply. At present everything is delivered in water carts, and has to be hauled from a well about three miles away. This means that the supply is always limited, and sometimes we are decidedly short. We are chlorinating and boiling all that we use, and, believe me, I do not know what the real taste of food is now. Everything is permeated with the flavor of chlorine, some days much worse than others, but it is surprising what you can get accustomed to when you have to.

NEED SUPPLIES.

"About the cases, motor-lorry, ambulance, etc., that you are sending out to us, I hope the authorities in England will forward them right along, as they will be particularly useful. We are just beginning to find out what our needs are going to be, and judging by the present weather we are going to need lots of comforts, especially warm clothing, mitts, socks and such things.

"The weather during the past few days has been exceptionally The ground is at present covered with snow, and this is accompanied by a high wind, which makes it very difficult to keep the patients, let alone the nursing staff, in anything like approaching a degree of comfortable warmth. . . . We are informed that the present weather is exceptionally severe for this time of the year and that we must expect some severe conditions during January and February, but I fancy you can count on it that the weather will be something like our December or March at home. At any time since we have been here the nights have always been very cold, the temperature commencing to drop about 3 p.m. and remaining down until the sun has been up for two or three hours in the morning. In the summer I believe it goes to the opposite extreme and becomes very hot and dry, so that we will have to Fortunately the officers prepare for practically all conditions. and nursing sisters were provided with rubber boots during the past few days or we would have suffered considerable inconvenience from wet feet, etc. The men have to endure a good deal of discomfort, and I tried, unsuccessfully, to secure for their use a supply of rubber boots from the authorities here. Failing in this, I was able to get them an issue of the very heavy, coarse English military boots, which has helped matters considerably for the time being.

"The operative work is at a standstill for the present time on account of our inability to raise the temperature of the operating tent above 35 to 40 degrees, but until a couple of days ago we were able to manage fairly well, and we hope that the present severe conditions will abate a little and let us carry on that branch of the work.

CHRISTMAS COMFORTS.

"A thousand thanks on behalf of myself and the unit for your suggestion in cable re Christmas comforts. They will certainly be much appreciated, and we will all get our heads together and decide what will be the best course to pursue in expending the sum named.

"We have got our mess working, but under rather rough conditions; a cook-house in the form of trench kitchens, etc., and mess for officers and nurses in big marquees. It is not very easy for the men to work under these conditions and serve things as they are capable of serving them, but they are really doing wonderfully well and we are all making the best of it. There is one bright aspect to the present conditions, and that is this—the authorities have decided to make this a hut hospital. The engineering department have surveyed the grounds for the huts and are sending a working party out to put in the permanent foundation immediately. The huts themselves are being shipped here in sections, and I understand are due to arrive at any time. The director of works promised me, two days ago, that he could have all the buildings erected within one month after the arrival of the parts, but I think that is a promise which it will be pretty difficult for him to realize if I can judge from the speed with which a good many of their other enterprises are carried out. However, if they will put up the ones most immediately needed, according to our directions, we can worry along then without holding them to the time limit of a month. This state of affairs will be a great boon to all of us, and will make life worth living, especially for my nursing sisters."