

An Address

ON

SOME WAR DISEASES.

DELIVERED TO THE

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

BY

SIR HENRY DAVY, K.B.E., C.B., M.D., F.R.C.P.,
PHYSICIAN, DEVON AND EXETER HOSPITAL.

WITH the exception of trench fever, which is dependent on the louse, I think we may say that no new disease has been discovered during the war, but, as might be expected, since all the best medical science and talent in the world has been focussed on these old diseases, an immense amount of knowledge has been gained as to their history and treatment.

Psychoneuroses.

It is true that most of us considered that we had to deal with a perfectly new condition of nerve disease when the first weird and bizarre cases came under our observation labelled "shell shock." Very early in the war Mott and others pointed out that the effect of poisonous gases from shells "was to produce military punctiform haemorrhages in the brain the result of inflammatory stasis and thrombosis of the small arteries"; in other cases it was found that the actual concussion produced by high explosives was "to cause the brain to be extremely congested with a number of minute punctiform haemorrhages at the terminations of the smallest vessels on the surface of the brain, but with no intracerebral haemorrhages."

Many of us, including myself, did not realize that we had seen or read of these conditions in connexion with poisoning by carbon monoxide and ordinary cases of concussion of the brain and spinal cord in any surgical treatise on the subject. In fact, if you read "Concussion of the Brain" in Bryant's *System of Surgery*, published in 1876, you will get a very good description of many of the cases of so-called "shell shock" as we first met them. Shortly, it was recognized that these war neuroses were the same as those previously known to us in civil practice, the difference being one of frequency rather than kind; finally, these neuroses were all more or less classified under the headings of neurasthenia, hysteria, and psychasthenia, and possibly the tendency has been too much to ignore the organic injuries to the brain which it was well recognized occurred occasionally in the history of civil cases of concussion of the brain, and in some few cases were never entirely cured. But it is certain that one undoubtedly saw the same weird and bizarre symptoms in men from camps on Salisbury Plain, and other camps in the Command, who had never been away from these camps, and had hardly, if ever, heard a gun fired or a shell burst. This was especially the case after conscription had come into force, and when the attempt was being made to make soldiers out of numbers of men who from family history, temperament, or physical condition, were totally unfit for active service.

It is a great pity that the term "shell shock" was ever invented. The men supposed to be suffering from it often seemed proud of the term, and to be as pleased with themselves as if they were wounded heroes. Worse still, it excited far too much pity and sympathy for them with everyone with whom they came into contact, including the nurses and even the doctors. In civil practice everyone realized that pity and sympathy were fatal to the successful treatment of these nervous conditions, and in all my experience in the numerous small hospitals I visited I cannot recollect a single bad case of so-called "shell shock" that made a good recovery. They stayed in hospital month after month, or went from hospital to hospital, with possibly short returns to their dépôts, and were useless for all fighting purposes. The worst case of this lingering in hospital I noted was a man with neurosis of his stomach, who had been in the army nineteen months, fourteen of which he had spent in various hospitals before I recommended his discharge from the army.

In the early days of the war the whole profession was divided as to the best treatment of these conditions. Some eminent authorities advised rest cures, massage, and electricity, and others psycho-analysis, while one well known authority said that they would do best if mixed up with jovial lightly wounded sailors who would cheer them

up and cure them by taking their thoughts off their ailments: It was quite late in the day that the best treatment for them was worked out to be:

1. To place them together in suitable institutions where the atmosphere was one of expectant cure.
2. Suggestion, usually without any hypnotic suggestion.
3. Graduated employment and re-education.
4. Stay in these institutions sufficiently long to stabilize their nervous systems.
5. Recognition that after a decided nerve breakdown they would never again be fit for the front line.

Very soon after my appointment as consulting physician in the command I was struck with the great benefit of rest, suggestion, and employment. Many of my hearers will remember Colonel Corkery, who, after being at the Devon Dépôt as medical officer in charge, took an appointment as school medical officer under the Devon County Council. At the commencement of the war he returned to the army. Shortly after my appointment in August, 1915, he asked me to visit his camp at Maker, near Plymouth. He had here a fair number of so-called shell shock cases. His treatment was rest, sea bathing, graduated walks, and finally trench digging. This treatment was so successful, and struck me so much that I made a special report on it to Surgeon-General Bedford, the D.D.M.S., who made Maker what was then known as a treatment centre, and subsequently I reported to the Director-General, Sir Alfred Keogh, who was much interested in the report. Unluckily, a few months after the report, Maker as a treatment centre for military purposes was closed, and Colonel Corkery was assigned other duties, so the experiment ceased.

It was not until 1917 that the principles I have enumerated were fully formulated at a meeting of the leading neurologists called by Sir Alfred Keogh in London, at which I was allowed to be present; it was, however, not until 1918 that institutions similar to the Seale Hayne were started—at any rate, in this Command. At the Seale Hayne War Hospital some extraordinarily rapid cures were effected, many of them very remarkable. I am not sure that for many of these cases I do not prefer the slower but equally good cures which were effected at the New Zealand Hospital for these psychoneuroses at Brockenhurst under Lieut.-Colonel Macdonald and his assistants. Here these cases were together in a hospital, the whole atmosphere of which was expectant cure. They were surrounded by patients—many of them cured, many of them in process of cure. Suggestion was carried out in so far as every one led them to expect they would soon get well; they had graduated exercise and employment, but no one bothered them to get well at once; no one worried whether they got well to-morrow, or next week, or the week after. But they got well just the same, and without that very great strain on their doctors which, I am sure, must be caused by the energy expended in producing the "lightning cures" to which we were accustomed at the Seale Hayne. After all, it does not much matter whether one of these patients is cured with great rapidity or more slowly, since, for the cure to be satisfactory, he has to remain in the institution for some time, so that his nervous system may become more stable.

Hours could be spent in describing points of interest in these cases of psychoneurosis, but I have dwelt long enough for my purpose, which is simply to call attention to their proper treatment. These nerve conditions have always been and will always be with us in civilian practice, and their treatment has always been most unsatisfactory. If a case of psychoneurosis came before me in private to-morrow, I should not know how to get him the best up-to-date treatment which I have seen lead to such successful results at the Seale Hayne, Netley, Brockenhurst, and other military institutions.

I would suggest to the Minister of Health that it is worth his while to start some institutions on these lines. There must be numbers of cases of psychoneurosis among insured persons, who would be so much more quickly cured in such institutions that large sums of money might be saved to the nation by that rapid cure. In such institutions accommodation might be found for paying patients, just as some of the public asylums have wards for private patients. I would suggest also that the question is worth the consideration of a few capitalists. One or two institutions on the lines of Seale Hayne or Brockenhurst, under suitable, firm, medical men experienced in the proper lines

of treatment, would make a good financial success, just as has Banff House in another line of disease; it would be a great boon both to patients and the medical profession if a few up-to-date institutions were available for the treatment of these cases.

Disordered Action of the Heart.

Another old condition which came to us under a new name were the numerous cases sent to us from the front labelled "Disordered action of the heart."

It would be interesting could we decide what proportion of these cases was caused by cigarette smoking, and what proportion was a pure neurosis brought on by other causes. I do not wonder at the excessive cigarette smoking of the men at the front. Had I been waiting about in the trenches or anywhere near the front line I am sure I should have done as they did, and smoked all the time as long as I could obtain a cigarette by any process whatever, but none the less I am sure that a large proportion of the D.A.H. cases were due to tobacco and were only cured when the cigarettes were left off or strictly limited. For the rest, numerous cases were pure neurosis, only to be cured in the same way as were the other neuroses, which we have before discussed.

It is easy to be wise after the event, but considering how much had been written by Oertel and the brothers Schott of Nauleim and various English physicians as to the value of graduated exercises in heart disease, especially those of nervous origin, it is strange that this method of treatment was not more generally applied much earlier in the war than it was. I do not remember when these exercises were first applied on anything like a large scale, but I believe it was in 1917 that I first went to the Mount Vernon Hospital, Hampstead, to study their effect in Dr. Lewis's clinic there. I met there Captain Scott, one of the officers sent from Netley to study the system thoroughly before introducing it there. Subsequently I was able to watch the cases under his care, and to note the benefit which followed the treatment in a very good proportion of the cases. But these exercises have to be very carefully graduated and arranged in progressive order of intensity, and must be watched by a medical man; for if the right exercises are not adopted and watched in their execution, as much or more harm than good results from their use. On more than one occasion when exercises were introduced to a hospital or command dépôt I found it necessary to advise the officer in command to send a special officer to the heart centre established later on at Colchester to study the system there and alter the exercises in use. It was found also that the good of these exercises depended greatly on the instructor, so that he also required special instruction if the system was to be properly carried out. Hence the same remarks apply to this mode of treatment as to the psychoneuroses, and we must have special institutions to which these cases can be sent.

But I hope that the treatment by graduated exercises for heart conditions of all sorts will be much more recognized by the profession in the future than in the past. Rest, and rest in bed, is very frequently necessary in all sorts of heart conditions, but in the future it ought not to be the chief and only remedy to be thought of. After a sufficient, often only a short, rest the medical attendant wants to find out exactly what amount of exercise his heart patient can take. Oertel originally gave his patients graduated exercises by making them do a definite amount of gentle walking. Some of his patients walked along the level, others up hills of varying incline, some walked for a little while with frequent rests, others for longer, some once a day, some oftener. Hence, by varying the details, and at the same time carefully examining the patient, any and every medical man can give his patients the graduated exercise required. Many a time for years past I have used the flat and the undulating parts of Exeter according to Oertel's method, and always with marked benefit to the patient. Nearly every medical man has in his neighbourhood flat and rising ground which he can utilize in the same way. If you could all have seen the heart cases at Netley remaining stationary in the wards and corridors of the hospital, and seen the same men after a course of graduated exercises, you would, like me, be thoroughly impressed with the benefit regulated exercise does to quite a large proportion of heart cases.

Diseases of the Lungs.

Nothing so much altered my views on any class of disease as did my experience of various lung cases among the military hospitals. Not only were these cases carefully nursed and recorded, but the bacteriology of their conditions was most carefully worked out, sometimes by the ablest and best bacteriologists in England.

One fact very fixed in my mind is that the physical signs in a chest need not settle the nature or danger of the disease from which the patient is suffering. We were, or at least I will say I was, before the war far too ready to consider a well marked consolidation of one of the apices of the lung to mean tubercle and nothing else. If a report on the sputum said that no tubercle bacilli could be found, one talked of the difficulty of always finding them, and one shrugged one's shoulders and stuck to the diagnosis. But there are quite a number of various bacilli which may cause consolidation of an apex, with exactly the same physical signs as are produced by the tubercle bacillus. Let me give some examples:

1. A young soldier, after influenza, developed consolidation of the right apex, with dullness, bronchial breathing, intensification of voice sounds, and some moist sounds for three finger-breaths below the clavicle. Several examinations of the sputum revealed no tubercle bacilli, but it was found full of pneumococci. With fresh air and tonic treatment he made a complete recovery in three months, and a year after was quite well.

2. A V.A. nurse was taken ill with high temperature and cough. She had also a large painful boil on the forehead. After a short time she developed typical consolidation of the left apex. Shortly after this she developed dullness over the left base. A hypodermic syringe plunged into the area of dullness drew out about a quarter of a syringeful of pus, but no more. Bacteriological examination revealed pure cultures of *Staphylococcus aureus* in the sputum, in the pus from the syringe, and in pus from the boil. After the use of an autogenous vaccine she quickly began to improve and recovered entirely.

3. An army chaplain was referred to me from France, said to be in a very advanced stage of phthisis. He was very ill indeed, and both lungs showed advanced signs of breaking down in parts, with patches of moist râles, dullness, and all the usual signs of tubercle. But he told me that although his sputum had been examined several times no tubercle bacilli could be found. I only saw him once, as he was going to friends at a distance. I, however, wrote to his doctor and asked him to have the sputum thoroughly examined by a bacteriologist to see what bacilli were present, and, if anything definite was to be found, to obtain and use an autogenous vaccine. Bacteriological examination of the sputum showed pure cultures of one of the streptococci. He died, and when the lungs were examined *post mortem* only the streptococci could be found. This was important, as it proved that his illness was contracted during his work in France, so that his widow will have a pension.

I could bring forward many other similar cases, but these are sufficient. In future I certainly shall not settle my diagnosis of similar cases on physical signs. I shall want the sputum reported on most carefully. If tubercle bacilli are found there is an end of the matter; but if not, and the disease seems due to some other bacillus, then vaccine treatment is indicated, and will be very often successful.

Equally interesting were some of the lung conditions associated with the pandemic of influenza in the late summer and autumn of 1918 and the early months of 1919. I spent many days during this time visiting the various camps and hospitals in which influenza was rampant, and in which various lung complications were most prevalent, and was in constant consultation with various bacteriologists. I was much struck with the varying reports as to the bacteria which were found, and with the comparative paucity of the reports in which the influenza bacillus was recognized. The same was true of the epidemic in France, yet it seemed most probable that the widespread pandemic which was going through the world had its primary origin in one common cause of infection. The truth seems to be that the influenza bacillus is difficult to find, and requires very particular media for its growth. This was brought home to me at Tidworth during a particularly dangerous and fatal epidemic of purulent bronchitis. These cases had been examined by two very good bacteriologists, but neither had found the influenza bacillus in any considerable proportion of the cases, although streptococci and various other bacilli had been found in all the cases examined. In many of these cases streptococci had been found in the blood, and the patients were evidently dying of septicæmia. A few days later I met Colonel French and Dr. Eyre from

Guy's. The latter brought with him his special media, and in by far the larger proportion of the cases he examined with this media he cultivated the bacillus of influenza. The truth seems to be that "the essential feature of this pandemic was an infection by the *Bacillus influenzae*, and that the lung complications were due to a secondary infection by some other organism." The secondary organisms in question which were recognized were the pneumococcus, *Streptococcus pyogenes longus*, and a diplo-streptococcus, the virulence of which appears to be exalted by the initial influenza infection. The septicaemic type of influenza differs much from ordinary influenza, even when this is complicated by lung symptoms. "The characteristic features of this septicaemia type of case are variable lung symptoms, varying from a slight bronchitis to a lobar pneumonia, very characteristic heliotrope lividity, dyspnoea, and very rarely orthopnoea. These, with other so-called complications of influenza, such as pleurisy, nephritis, and others of lesser import, are evidence of the septicaemia or toxæmia referred to."

During the time I was visiting the camps and hospitals I was, when occasionally at home, called in consultation by medical friends in Exeter and the neighbourhood, and it was interesting sometimes to find in isolated farmhouses and in isolated country districts cases presenting all the characteristic symptoms of this septicaemia with its typical heliotrope colour, whilst all the other cases in the house or neighbourhood presented the characteristic symptoms of ordinary more or less severe influenza. The influenza bacillus had prepared the way, and the septicaemia depended on infection by a secondary organism which was present in the patient or his surroundings, either one of those mentioned above, or possibly some other, which had not up to this time been described.

Nephritis as a complication of this septicaemic type was not, I think, a feature of any diagnostic value, for one of the peculiarities of this pandemic was the frequency with which albumin, often to a large amount, was found in the urine, in cases with lung complications. Some of these cases of albuminuria were doubtless cases of true nephritis, but in many under my observation the albumin disappeared so quickly and completely under treatment that I think it most probable that the albuminuria was due to a temporary congestion of the kidneys, often associated with all forms of pneumonia, and not to true nephritis.

Captain C. J. Symonds, in a paper in the *Lancet* for November 16th, 1918, has carefully analysed 22 cases, in which the presence of well-marked nephritis was associated with bronchopneumonia. Many, though thought to be healthy, were cases of latent nephritis, the microscopic examination proving the existence of old renal disease. Captain Symonds points out that these cases did not present a clinical picture typical of nephritis, and in most cases this would not have been suspected without an examination of the urine. As he rightly remarks, "delirium and collapse were the outstanding symptoms of the patient whose nervous centres and renal epithelium alike were overwhelmed by toxins absorbed from his pus-sodden lungs."

I quite agree with Captain Symonds that the symptoms of pneumonia are very much altered by failure of the kidneys to do their work, whether this failure be due to an old nephritis or to a quite temporary severe congestion of the organs.

Both in military hospitals and among private patients I have seen cases of pneumonia whose urgent symptoms I thought looked more like uraemia than anything else; in six or eight we found the urine scanty, and loaded with albumin, often one-third to a half. Some of these cases died, some recovered, and the albumin entirely disappeared within a very few days, leaving not a trace. I treated all these cases with caffeine, digitalis, and potassium citrate, but I do not think that they would have recovered so quickly from such simple treatment had any true nephritis been present.

War Nephritis.

As on the Consultants' Council there were few physicians, I had a great deal to do with the framing of the Army Council Instructions on this subject; the two issued first were very obscure and unsatisfactory, but I think the third, simply founded on experience and a careful analysis, was quite good. Really these Army Council Instructions reflected the knowledge which was possessed

at various times on the subject. I studied most of the literature on war nephritis which came out both in our own medical journals and in that most valuable *Review of the Foreign Press* compiled by the Medical Research Committee, and took more trouble in trying to gain some knowledge of this war disease than of any other. But in the end I came to the conclusion that no one had any real knowledge about it. Whether it was due to bacillary infection or to cold and exposure seemed uncertain, and whether the patients were best treated with drugs or without seemed doubtful. Some authorities recommended milk and a total deprivation of salt, whilst one authority—a German, of course—found that a cold infusion of raw chopped up pig's kidney was excellent treatment.

My own view is that many various causes contributed to produce war nephritis; that some cases were bacillary and their origin sometimes traceable to the *Bacillus coli*; that some were due to cold, while some of the cases which in the hurry and hustle of the casualty clearing stations were sent over to England as war nephritis were cases of temporary albuminuria due to fatigue and over-exertion.

I am not certain that war nephritis differs much either in its origin or treatment from the acute nephritis we find in civil practice. Rest in bed on a diet of milk and farinaceous food, especially rice, modified and increased as the symptoms improve and the albumin lessens, are as much needed in the one case as in the other, while drug treatment must be varied as the symptoms vary. Many authorities agree that hot packs are not beneficial in war nephritis, and I doubt their utility in the ordinary nephritis of civil life. Certainly they are not good where there is a tendency to convulsions. If given while the convulsions are in progress the temperature of the patient may rise very greatly, as it did in the following case of war nephritis.

A patient with constant convulsions was in a hot pack; his temperature was 107° F., and he seemed on the point of death. After copious bleeding from the arm, injection of morphine, and removal from the hot pack, the temperature speedily returned to normal, the convulsions ceased, and he recovered.

If I want to make a patient sweat I prefer an injection of one-third of a grain of pilocarpine to any other remedy, and I have seen much benefit from its use in many cases of uraemia.

Lethargic Encephalitis.

I was fortunate enough to see several cases of lethargic encephalitis very shortly after the disease appeared in England, and before much was written about it. There had been a small outbreak of 18 or 19 cases, mostly under Major Barnes of Birmingham, who is one of the best neurologists I know. I was visiting his nerve cases in the Highbury Military Hospital, and he took me to see the 4 or 5 cases still under him, and gave me an admirable clinical lecture on all that was then known about them. This disease, like every other disease, is very easy to diagnose when all or most of its classical symptoms are present. But often these classical symptoms are rather late in development, and then the condition is very puzzling.

The characteristic lethargy, drowsiness, or pathological sleepiness may not be sufficiently marked at first to excite special attention, although, if carefully looked for, it can usually be observed; when marked it is very significant of the diagnosis. With the drowsiness there is the very remarkable feature that however much the drowsiness is developed the patient's response to requests in act and word is surprisingly accurate. I cannot say that this accuracy of response is present in all cases, but when it is present it, I think, marks off this lethargy from every other kind of drowsiness or stupor with which I am acquainted. One case made a great impression on me.

I received an urgent telegram to see an officer at Portsmouth, and I visited him five hours later. In the meantime he had become much worse. When I saw him one knee-jerk was lost, he had a squint, and his pupils were dilated and fixed. He was extremely drowsy, and appeared almost comatose. But when roused he answered all my questions accurately, and moved his hands and legs and put out his tongue when requested, returning to his lethargic condition and apparently going off to sleep after each request.

For the rest the symptoms may vary very much; headache or dizziness with or without sickness; some rise of temperature or none at all; some paralysis of limbs or alteration in the reflexes; or the limbs may be unaffected and the reflexes normal. But usually the eyes sooner or

later show evidence of the disease. Ophthalmoplegia or ptosis may be present, the pupils show something abnormal, either dilated or contracted, possibly fixed and insensitive to light. But above all the patient is unusually lethargic and drowsy, but answers questions rationally when roused.

It was fortunate that I saw these cases at Birmingham, for afterwards I was called to cases at various military hospitals and in the neighbourhood of Exeter. In every case I have seen the early diagnosis has been very difficult, although later the symptoms were quite diagnostic.

When I was in France in July, 1918, the disease was attracting a good deal of interest, as it was said that a special organism had been found which had reproduced the disease in monkeys. I have not, however, noticed that these observations have been confirmed. Often when I have seen one case, I have seen one shortly after, either in the same town, or in a neighbouring district; it has not, however, been possible to trace any connexion between the cases. I saw two cases at Portsmouth within a few weeks of one another, and about six or eight weeks ago I saw a case at Chagford, one at South Molton, and one at Aylesbeare in one week, but there seemed to be no connexion whatever between the cases, and I know nothing as to the cause of the disease.

Convalescent Dépôts in France.

In France I was much interested in the convalescent dépôts for tired and convalescent soldiers. I visited four or five, and spent the whole afternoon at No. 10, at Ecault, near Boulogne, studying the organization. They were of two grades. In Grade I a certain amount of treatment and the special exercises for heart cases, etc., were carried out. In Grade II no treatment was given. No. 10 Convalescent Dépôt at Ecault was Grade II. Here there were between 1,900 and 2,000 men, all employed. Gardening was a great feature, and here I saw some of the best flowers and finest vegetables I have ever seen. At this dépôt all the men, except those with special employment, took part in parades twice a day, about 500 in each. The men remained there from seven to fourteen days, and a few for a month, before returning to their duties. I watched the 2 p.m. parades.

(a) Five hundred paraded for games; watching them afterwards, I saw some excellent boxing, hockey, and football. All of the men were engaged in these games; it was not a question of a few players and the rest looking on.

(b) Five hundred men had a route march of one and a half hours.

(c) Five hundred men paraded for bathing.

Each parade had its own band, which played at the head of a parade, and, although the personnel was always changing, the bands were very good.

Prizes were given for company matches and competitions, and the prize team walked off parade first.

The whole organization was arranged to keep up the mentality of the men, and I never saw men more keen or in such good condition; the contrast with the men staying about in our small convalescent homes at home was remarkable.

These convalescent dépôts impressed me enormously. As a profession we hardly realize how much the mentality of a patient helps or retards his cure. Hurst and others have pointed out how much the suggestion unintentionally conveyed by the questions of the medical attendant may have to do with producing the symptoms in hysteria. He has also shown how many of the symptoms observed in organic disease, especially of the nervous system, are functional, being grafted on to the true organic symptoms. Every one recognizes what an important part suggestion plays in the cure of the functional conditions, but until I studied these most admirable convalescent dépôts, where fagged out soldiers and convalescents were, so to speak, resuscitated in two or three weeks and made fit to return to duty, I had never realized how necessary it is to keep up the mentality of a sick man, and to keep him employed, interested, and amused if he is to be restored to health as quickly as possible.

Army Sanitation.

One of my most pleasant experiences was when I joined the medical head quarters of the Fourth Army in France, and found there our old friend, Major Leonard Tosswill of Exeter, occupying the important position of Chief Sanitary Officer of that army. We English are inclined to grumble, and to decry and underestimate our achievements, but we

may well be proud of the achievements of our Royal Army Medical Corps in the face of all their difficulties in the field; difficulties of which their stay-at-home critics have not the faintest conception; and most especially may we be proud of the sanitation of our armies under the direction and supervision of men like Major Tosswill. With him I visited the St. Requier School of Sanitation for the Fourth Army, where forty men at a time were put through a course of sanitation, and taught to make all kinds of sanitary appliances out of old biscuit and petrol tins. From these they will produce pipes to be used as chimneys, stoves without solder, field kitchen ranges and de-lousing pits. They learn to make bricks by pressure, and how to construct latrines, etc.; how to purify water; and the part which flies and lice exercise in the production of disease, and how to destroy them.

With Major Tosswill I visited Amiens, then a deserted desolate bombarded city, for the sanitation of which he was responsible. With him I saw the way in which the horse manure was prevented from breeding flies, and visited several of the baths established for the men at the front and for providing them with lice-free fresh clothes. In fact, he showed me the numerous details which went to make up the more or less perfect sanitation of our army, which, considering the difficulties of a fighting army constantly on the move, were really admirable. The question arises, What is to become of the well trained sanitarians of St. Requier, and of the schools of sanitation belonging to the other armies? What is to be done with the splendidly trained sanitary officers who have all this war experience? In the future are the small towns in England, at the cost of a few pounds, going to have public disinfecting chambers on the principle of the de-lousing pits, and will the huts recently used throughout France as hospital wards be erected at little cost as isolation hospitals? Or are we going to forget all that the war has taught us, as in so many directions we seem already to have forgotten? Time will show. But it is to the younger men of the nation who have gone through this war that we must look if all this experience is not to be lost.

In conclusion, I should like to say how pleased I have been to be associated with the regular R.A.M.C., some of whom have done scientific work of great value, while many of the higher officers in the service are wonderful organizers who have done grand work throughout the war. With them have been associated some of the best men in England, who, like myself, have been temporary officers, and I am pleased to think that, while our medical knowledge has been greatly advanced, our sick and wounded have been cared for as they never have been in any previous war.

Observations

ON

MITRAL STENOSIS IN SOLDIERS.

BY

THOMAS F. COTTON, M.D.

(A Report to the Medical Research Committee.)

WHEN the authorities at the War Office decided to establish a special hospital at Hampstead, and later at Colchester, for the treatment of soldiers invalidated with affections of the cardio-vascular system, an unrivalled opportunity was given for the study of heart disease in these men. During the past three years there have been under observation more than 800 patients with clear signs of structural heart disease. The majority of these were young men, with little or no disability before enlistment; they were passed as fit for military service, the greater number had seen active service abroad, and in only a very few were there signs of heart failure while in hospital.

In the wards of the public hospitals there are always patients with advanced heart disease; clinical observations made by able observers, and accurate pathological studies by careful laboratory workers have led to a sound understanding of diagnosis and treatment in these cases. At no time in the past has it been possible to observe in the wards of a hospital such a large number of patients with early organic heart affections. The opportunity seemed a favourable one to study the symptoms and