

MEDICAL TREATMENT FOR DISABLED SOLDIERS.

OUR medical service is faced with a task which will try its skill and endurance to the utmost. "There are already," says a writer in the *Lancet* (November 8, p. 867), "at the lowest estimate 50,000 disabled soldiers discharged from the military hospitals as unfitted for further service." Every week will add to the number. It is true that these discharged men have been cured of their immediate wounds, but we must also realise that they are still convalescent. A large proportion stand in urgent need of a continued medical supervision. There are those whose lungs have been permanently damaged by poisonous gases or by the adhesions which follow healed wounds of the chest. In others the heart is injured and needs careful treatment; more frequently still, the nervous system has been thrown into a state of disorder which only nursing and skill will restore. There are thousands with damaged joints and muscles who can yet be brought back to take a full part in civil life if they receive the requisite attention.

No one will question that it is the nation's duty to attend to the immediate plight of these men. We have two national organisations which could take the problem in hand: the Army Medical Service and the National Health Insurance Commission. The Army has already enrolled most of the medical men who are specially qualified to deal with such cases; medical practitioners working under the National Health Insurance Commission are already overtaxed.

The Government of France, we learn from the *Times* (November 14), has had to face this problem—a much greater one than falls to us. The disabled French soldier, when he is discharged from a hospital in Paris, still remains a soldier, a soldier still under discipline, and passes at once under the care of an organisation housed in the Grand Palais des Beaux Arts, splendidly situated, as every visitor to Paris knows, on the north bank of the Seine. Paintings and statuary have made room for all the modern appliances needed to restore stiffened joints and wasted muscles. The Grand Palais has become a portal through which disabled soldiers emerge as men again fit to take up a useful place in civil life. If necessary, they are trained for a trade or office, such as their physical limitations will allow them to undertake. The treatment has often to be prolonged, and discipline secures a continuity of application and a completion of cure. So well has this system worked in Paris that steps are being taken to have similar organisations set up in provincial military centres of France.

The French are solving a difficult problem, and leading in a way we shall do well to follow. In this country we have established at Roehampton and at Erskine the means by which officers and men are fitted with artificial limbs. There can be no question that these two institutions are fulfilling a national service, but the limbless form only a portion of our disabled men. Massage,

electrical treatment, graduated exercises under skilled men and women are the chief means of treatment we can place at their service. We have, too, says the writer in the *Lancet*, "in Sir Alfred Keogh an extraordinarily sympathetic as well as able Director of the Army Medical Service, so that we can feel assured that the cause of the disabled soldier will be treated as a matter of the gravest national importance."

PROF. A. M. WORTHINGTON, C.B., F.R.S.

THE death of Prof. A. M. Worthington at Oxford on December 5, after a short illness, will be deplored by many men of science and a large circle of students who came under his educational influence. Born in Manchester in 1852, Prof. Worthington was educated at Rugby and at Trinity College, Oxford, afterwards working at Owens College, Manchester, and at Berlin, in the laboratory of Prof. Helmholtz. From 1877 to 1879 he was headmaster of the Salt Schools, Shipley, and from 1880 to 1885 he was an assistant-master at Clifton. In 1887 he was appointed headmaster of H.M. Dockyard School at Portsmouth, where he first took a hand in the training of the students of naval engineering, then quartered on H.M.S. *Marlborough*. In 1887 he was transferred to Keyham, Devonport, as headmaster and professor of physics at the new Naval Engineering College, and in that post he remained for the next twenty years. In 1909, owing to the reduction in staff that became necessary at Keyham, which was then being gradually closed down under the new scheme of naval education, Worthington was transferred to the Royal Naval College, Greenwich, as professor of physics, but owing to ill-health he retired in 1911. The main part of Worthington's life was thus spent at Keyham, where he made a great success of the educational side, of which he had charge.

As a lecturer, Worthington was very fine. His favourite subjects were dynamics, hydraulics, optics, and statical electricity. These he presented to his students logically and clearly, illustrating them by many well-thought-out experiments performed with the simplest possible apparatus. He always laid out his lecture table with great care, so that each experiment could be seen by all. In the laboratory he was equally good, and was a most painstaking and energetic instructor, always endeavouring to make the student think for himself. He was a pioneer in the introduction of practical physics into schools, and his work in this direction, carried on at Clifton College, is embodied in his excellent little text-book, "Physical Laboratory Practice."

In his dealings with the naval officer in charge of the college at Keyham, Worthington always strove to maintain the dignity of his position and that of his civilian staff, whom he backed loyally in all matters of discipline. Here his ability to write a good letter stood him in good stead and won many a battle with a new commander who failed to gauge his strength.

As a popular lecturer on scientific subjects,

Worthington was particularly good. His delightful voice and masterly style invariably held his audience up to the last moment. Occasionally he lectured to the convicts at Princetown, and twice the present writer helped him with experiments and lantern slides, the first lecture being on astronomy and the second on the dynamics of rotation. On the first occasion it did not seem possible that an audience of 1000 convicts would be entertained with such a subject as astronomy. But Worthington was in his best form, and held their attention from first to last. The second lecture was even more successful than the first, owing to the experiments.

Worthington's original work in physics is well known. He published papers on surface-tension, the stretching of liquids, the splash of a drop, and other subjects. All his work was marked by great experimental skill, especially that on the stretching of liquids and on splashes. He devoted a large amount of time to the latter subject. The apparatus used was simple, but in his skilful hands the results obtained were accurate and beautiful. Of the many hundreds of experiments made, he only published those that brought out points in a connected chain of phenomena.

He published several scientific works, the chief of which was on the "Dynamics of Rotation." Marked by great lucidity of style, this book ably filled a place in the library of physics. He also wrote and had printed a number of pamphlets on wave motion, hydraulics, statical and current electricity, and optics, for private circulation among his students. These were all most carefully prepared after much discussion with his assistants.

Worthington was a man of strong and decided character; having marked out a line of action, he stuck to it, and fought for it with all his might. In fact, he rather loved a fight, being a Lancashire man. His considered judgments were always sound, but he was impulsive at times. He ruled his department at Keyham on the principle that a headmaster should make his presence felt, and in that he succeeded; on the whole, he ruled with much wisdom, and undoubtedly the many officers who passed through his hands will recall his influence on them as entirely for their good.

To his friends and those who understood him, Prof. Worthington's death is a great loss.

PROF. JOHN WRIGHTSON.

THE death of Prof. John Wrightson, on November 30, at seventy-six years of age, removes a well-known authority and writer from the agricultural world. As professor of agriculture (1864-79) at the Royal Agricultural College, Cirencester, he formed one of a small but eminent group of teachers, including Church and Fream, who have left a lasting mark on their subject. After his departure from Cirencester he founded Downton College, of which he was president until it closed in 1906 from inability to compete with State-aided institutions. Many of his former pupils, both at Cirencester and Downton, have

done much to promote the improvement of agriculture. For some years Wrightson was professor of agriculture and agricultural chemistry at the Royal College of Science, and chief examiner to the Science and Art Department in the "Principles of Agriculture."

As a writer Wrightson was distinguished by his careful selection of matter and by lucidity of style. He and Principal Newsham recently compiled a "Text-book of Agriculture" which is extremely practical in nature and has been much appreciated by many educational institutions. For many years Prof. Wrightson was agricultural editor to the *Times*, and wrote the periodical reports on crops up to the time of his death. His intimate friends, and they are many, will feel the loss of his genial personality and old-fashioned courtesy. His intellectual powers remained unimpaired by age, and his unobtrusive generosity will be remembered with gratitude by many. His name will always occupy an honoured place in the history of British agriculture, especially as regards the educational developments of which the Royal Agricultural College, the Royal Agricultural Society of England, and the Board of Agriculture (when Sir Thomas Elliott was Secretary) have been pioneers.

J. R. A.-D.

NOTES.

THE question of national laboratories of scientific research has been brought forward recently in France. In the *Comptes rendus* of the Academy of Sciences for November 13 is a preliminary report by a committee composed of MM. Jordan, Lippmann, Emile Picard, d'Arsonval, Haller, A. Lacroix, Tisserand, and Le Chatelier on this question. It is pointed out that all the great industrial nations possess national laboratories of scientific research, systematically directed towards the study of technical problems. The National Physical Laboratory in England, the Bureau of Standards and the Carnegie Institution in the United States, the Physikälische Reichsanstalt and the institutes founded by the Wilhelm Gesellschaft in Germany are given as examples. France has no corresponding institution, and after a full discussion of the questions of control, staff, and work to be done, the following resolution was unanimously carried:—"The Academy of Sciences, convinced of the necessity of organising in France, in a systematic manner, certain scientific researches, expresses its wish that a National Physical Laboratory should be started, for the prosecution of scientific researches useful to the progress of industry. As in other countries, this laboratory would be placed under the control and direction of the Academy of Sciences." On November 27 this question was further considered by the academy, and it was suggested that the general direction of the laboratory should be entrusted to a council, one-half of the members to be nominated by the academy, one-quarter representatives of the State departments, and the remaining quarter delegated by the principal industrial interests. Certain existing State laboratories might be affiliated to the National Laboratory. A considerable grant for establishment and maintenance will be necessary.

A PROLONGED trial, which has lasted 145 days, the longest British trial with the exception of the Tichborne case, and concluded with the longest speech on record in the British Bar, illustrates the inconvenience