universities of the world. The members of the mission will make themselves acquainted with the resources of the universities of America, and reciprocally they will endeavour to make known in America the opportunities for advanced study and research which our own universities afford. The eighteenth-century conception of a university as a glorified public school is to give way to the earlier and sounder view that it is a centre for the creation of knowledge. Made famous by great teachers, one university is especially distinguished in this branch of learning, another in that. A lad is not "finished" as soon as he has been admitted to a degree, whether in Manchester or in Manitoba. He is but fitted to begin to prepare himself to be a leader in his chosen subject. It is scarcely necessary to hint at the encouragement in teaching and stimulus to effort which an enthusiastic worker would derive from the knowledge that it rests with him to lay the foundations of a school which will not merely, as at present, bring undergraduates in increasing numbers to the university which he serves, but will also attract to its walls students from other universities both shortly before and immediately after graduation.

Nor is it necessary to point out that if such opportunities for higher work are to be developed, the universities will need to be supported more generously than they are at present. It is absolutely necessary that departments which show capacity for specialised work should not be limited, or even hampered, by lack of funds. The conception of a university as a place in which all subjects are taught and the claims of all departments equally balanced must give way to the conception that, whereas in every university students are equipped with such elements of education as fit them to tackle their chosen subject with success, each must endeavour to gain a reputation for very special distinction in the subjects which its local situation marks out as its own peculiarly appropriate sphere.

On the other side of the Atlantic migration for purposes of advanced study is already an established habit. Canadian graduates pass to the universities of the United States, and before the war graduates of the United States migrated in large numbers to Europe with the view of studying for two or three years in countries in which the methods of teaching and research, and even the language, are different from their own. A degree which justifies the prefix "Dr." is regarded in America as an indispensable qualification for a higher teaching office. It is looked upon as the recognised symbol of successful post-graduate work. Its title is of little moment. We may not like "Ph.D." The origin of this so-called degree is obscure and almost certainly disreputable, but it has an accepted value. An American who has studied for two or three years after graduation and has done some original work asks for this distinctive label. There is little doubt that British universities will have to concede a similar recognition to their advanced students, whether native or from overseas. Agreement upon the title of the degree is, however, but a detail in the great movement which is now on foot for the fostering of mature and strenuous work. It is obvious that the ablest students must be encouraged to persevere with their studies until they are qualified to undertake work which will make for the advancement of knowledge and its application to human activities of every kind.

If the universities are to be enabled to produce such fruit, their growth needs to be stimulated and strengthened both in material and in *personnel*. Financially they must be placed in a position to keep their equipment in a condition of excellence somewhat in advance of the calls which the moment makes upon them. Their teachers must be encouraged by a sense of opportunity. In whatever part of the kingdom their university home may be, it must be open to them to do something more than earn their pay—not that their pay is as a rule more than adequate remuneration for the routine instruction which they are called upon to give. In the higher work, which naturally interests them most, it is not sufficient that they should have the satisfaction of securing so-and-so many "passed with honours," comforting as such success is and always should be. Nothing would contribute more directly to vitalise their own studies and to stimulate to research than the presence in their classrooms and laboratories of students attracted thither from other universities and especially from universities overseas.

LT.-COL. E. F. HARRISON, R.E., C.M.G.

THE death of Col. Harrison on November 4 deprives the nation of an officer who rendered most magnificent service to the British Army and the Armies of our Allies. The loss is deeply deplored now, closing as it does, at the early period of forty-seven years, a career that gave sure promise of continued high achievement in the coming days of peace. Had it occurred earlier it would have been a calamity to the cause of the Allies that one shrinks from contemplating. But, happily, his great war task was accomplished; his true worth was acknowledged; he had been appointed Controller of Chemical Warfare, and in a few days it would have been known that the quiet, inconspicuous consulting chemist had passed by the force of merit through all the grades from private to Brigadier-General in the Army. Many have helped in the task suddenly imposed upon the Allies by the perfidy of the enemy in inaugurating gas warfare, but it may safely be said that no name should stand out more conspicuously for gratitude and renown than that of Col. Harrison.

Edward Frank Harrison was educated at the United Westminster Schools, and in 1884 was apprenticed to a pharmaceutical chemist in North London. In 1890 he gained the Bell scholarship of the Pharmaceutical Society, and proceeded to its school in Bloomsbury Square. There he was awarded medals and certificates in chemistry, botany, and materia medica, and after passing the

minor and major examinations he occupied several positions on the staff, and carried out research on the alkaloids of aconite. While acting afterwards for five years with the firm of Messrs. Brady and Martin at Newcastle, he successfully used his leisure to prepare for the B.Sc. degree of London University. The next six years were spent as head of the analytical department of Messrs. Burroughs Wellcome and Co. In 1905 he went into partnership in a school of pharmacy, but finally took up the independent practice of consulting and analytical chemistry. He was an eminent specialist in the analysis of drugs and medicinal substances, and as analyst to the British Medical Association made nearly all the analyses of proprietary articles which were revealed in the two publications "Secret Remedies" and "More Secret Remedies," a service of immense value to public health and public economy that has scarcely yet, for well-known discreditable reasons, been given a chance of realisation.

Col. Harrison was a fellow of the Institute of Chemistry, and published a number of papers on his special province of the science. His process for estimating the diastatic strength of malts is now in general use. He was active both as a student and a past student in the life of the Pharmaceutical Society's School, in which he was most highly regarded, and to which as his *alma mater* he was loyally devoted. He was a member of the board of examiners, and last year he delivered a thoughtful and valuable address at the inauguration of the session. For three years he conducted the practical chemistry competition maintained in the weekly *Pharmaceutical Journal*. His professional life was, indeed, in the highest degree strenuous.

As soon as the war broke out Col. Harrison was impatient to join the forces. After being refused several times on the ground of age, he became a special constable and a volunteer in the Inns of Court Reserve Corps. Later he succeeded in entering as a private in the Sportsmen's Battalion of the Royal Fusiliers. It was by an accident that he came under the notice of the first head of the anti-gas service at home, Col. Sir W. H. Horrocks, R.A.M.C., who with some difficulty succeeded in securing his services. He was given the rank of lieutenant on the general list, and from that time devoted himself to the anti-gas service. It was only in the present year that his duties were extended over both branches of the gas service. Of Col. Harrison's personal contribution to the invention, design, and manufacture of the appliances necessitated by gas warfare it would not be proper to speak at present in any detail. It is to be hoped that some day the story may be told. It is enough to say that his services were of inestimable value.

The type of chemical training and of experience which Col. Harrison brought to bear was of great value in the design of appliances, on the problem of securing and testing supplies, and of translating laboratory experiment into large-scale operations. This is well brought out in the following extract from a letter which has been received from Lord Moulton: "It is only those who were brought into intimate contact with his work who are able to estimate rightly how great a loss to the country was his death. He was an extraordinary compound of the theoretical and the practical mind. His knowledge of all that bore upon chemical warfare was extensive and profound, but it was accompanied by an overriding practical sense—a sense of proportion—which gave him quick and sound decision and enabled him to give to our armies in the field the full benefit of the researches made by us and our Allies promptly and in the most useful form. I do not see how his place can be filled. I hope, however, that events will show that he lived long enough to finish the work before him. He died at the moment of victory. I fear that his death was due to his having exhausted his strength in his devotion to his country."

Col. Harrison's talent for organisation was, however, dominant above everything. The amount of work he got through was amazing. He was in no way tempestuous or violently masterful, but with indomitable will, intense concentration, and few words he went straight to the heart of things—one thing after another—without confusion, clear-headed, terse, lucid, and suggestive, even when most weary and worn by incessant toil. He was invariably patient and imperturbable; no problem, however suddenly presented or however vast, daunted him, no mischance dismayed him. Emergency seemed to be his natural element; he seemed constantly on active duty. The mention of rest, leisure, or leave raised a smile, as for something incompatible or, perhaps, for the pleasant thought of bygone days.

One could not but wonder what this man might not have done in the arts of peace if only he had been discovered earlier. The war brought him his chance. Suddenly the bonds of an artificial world were released; he put on his armour and fought for four strenuous years, to die an acknowledged leader of men in a vast campaign, and worthy indeed of the full military honours and of the sorrow eloquent on the faces of troops of friends, amid which he was laid to rest. A. S.

NOTES.

INASMUCH as it provides for the bringing together, under one Minister, of the Local Government Board, the Insurance Commissioners, and other bodies performing health duties of a more or less definitely preventive kind, the Ministry of Health Bill will be welcomed by all interested in improving the national health. The welcome, in all probability, will be a little less warm than it might have been, because, though the Bill may, as Dr. Addison, the introducer, said, "represent a common measure of agreement," it nevertheless contains evidence that much in the way of compromise was necessary before agreement was reached. One of the chief signs is the provision with regard to the taking over from the Board of Education of the medical inspection and treatment of school children. This, it is stated, is to come under the Ministry of Health and its Minister only "as and when