that he left science in quite a different state from that in which he found it. His achievements are indeed so great that, at a gathering of physicists like the one here assembled in honour of Galvani, where recent progress in our science is discussed, they provide the background of almost every word that is spoken. His untiring enthusiasm and unerring zeal led him on from discovery to discovery, and among these the great landmarks of his work, which will for ever bear his name, appear as naturally connected as the links in a chain.

Those of us who had the good fortune to come into contact with Rutherford will always treasure the memory of his noble and generous character. In his life all honours imaginable for a man of science came to him, but yet he remained quite simple in all his ways. When I first had the privilege of working under his personal inspiration, he was already a physicist of the greatest renown, but nevertheless he was then, and always remained, open to listen to what a young man might have on his mind. This, together with the kind interest he took in the welfare of his pupils, was indeed the reason for the spirit of affection he created around him wherever he worked.

Rutherford passed away at the height of his activity, which is the fate his best friends would have wished for him, but just on account of this he will be missed more, perhaps, than any scientific worker has ever been missed before. Still, together with the feeling of irreparable loss, the thought of him will always be to us an invaluable source of encouragement and fortitude. NIELS BOHR.

RUTHERFORD'S death removes from science the most outstanding personality of the age. My most vivid memories naturally date from the autumn of 1900 and the two subsequent years when I worked with him at McGill. A born experimenter, entirely devoted to his work and with few, if any, outside interests, I can see now more clearly than I did then how he neglected no opportunity or preparation the better to advance it. Though the qualities for which in later life he was so publicly beloved were then still undeveloped, yet undoubtedly they existed and they helped to leaven the McGill of those days and to make it the enchanted place it was. The personal familiarity with the man, and his methods of work in the laboratory, that I gained in those years remained, of course, an abiding possession. Yet I do not think it was entirely, if at all, this that later was to make all his scientific communications a unique pleasure to read. True, admiration for some new and striking advances was pretty sure to be evoked, but over and above this they seemed to radiate an entirely undefinable charm.

In the last phase, since the Great War, this extended from his writings to his public lectures and appearances. The intense absorption in abstruse scientific problems, which in others is a hindrance to wide social intercourse, was in him combined with such vitality and magnetism that others were attracted rather than repelled. As has been well said, he was able to vitalize any public gathering and make it the happier merely for his coming.

In the last letter I had from him, asking me why I had resigned, he told me he did not expect to do so for some years, as he was feeling very fit and well, and able to hold his job down. The Fates have otherwise decreed. He reached, perhaps even did not quite reach, the summit of his powers, but for him there was to be no slow and inevitable decline. F. SODDY.

IT is hard to think of Rutherford as a man whose life is finished, that we shall no more see his steady eyes and hear the familiar voice, now asking placidly about some domestic trifle as any friend might, now growing hurried and excited when ideas about some physical problem were coming almost too fast for his tongue. There can seldom have been a man in whom burning genius was so closely associated with the kindly commonplace, who at any moment might suddenly become inspired, and a little later might be showing a boyish naïvety about some question of another kind. His ability to excite affection was as marked as his power of commanding admiration: his foibles were essentially those of a frank and simple nature, the charm of which remained unspoiled, and was even enhanced, by successes that might well have turned the head of a lesser man.

I like to think of him as he was at Manchester, where I first came to know him. Of this time he might have said, in Newton's words, "for in those days I was in the prime of my age for invention, and minded philosophy more than at any time since." He was free from any grave cares of administration, his duties outside the laboratory were light, and he had leisure himself to experiment with his own hands and eyes, as he loved to do. He organized his students as a team for radioactive research, allotting to each a task within his capacity, and urging him on in energetic fashion if urging was needed. Our belief in him was implicit: if Rutherford said that an experiment could be done, then it could be done, and the sooner it was done the better.

Rutherford was a young man with the rest of us, sharing our jokes and showing us how to overcome our difficulties. His nickname in those days

was "Papa", perhaps arising from the paternal way in which he put us right about anything that had to do with radioactivity. But he was a very young father of a family and extremely unconventional. When things were going well, and new discoveries were coming out at the rate of about one a week, a tune recognizable by the elect as "Onward, Christian Soldiers" could be heard accompanying the Professor's steps along the corridors: when things were going less well another tune, no less holy, held sway.

It must not be thought that his interests were limited to radioactivity, or to any other particular branch of physics. I well remember him cross-examining A. D. Fokker about relativity, and any other visitor had to tell him all about the work in which he, the visitor, was expert. The theme of the laboratory in the few years before the Great War was, however, the structure of the nuclear atom, which he had put forward in 1911. In the laboratory during this period were Niels Bohr, H. G. J. Moseley, C. G. Darwin, J. Chadwick, H. Geiger, H. R. Robinson, J. M. Nuttall, E. Marsden, D. C. H. Florance, J. A. Gray, R. W. Boyle, H. B. Boltwood and A. Kovarik, to quote a few remembered names. Those were good days. Other great men will, no doubt, arise, but it is unlikely that any of us who worked with him in those days will live to see another such genius at the height of his powers, the leader and friend of such a school.

E. N. DA C. ANDRADE.

LORD RUTHERFORD'S death is a calamity for the Department of Scientific and Industrial Research. In the seven years during which he has been chairman of the Advisory Council, his influence has made itself felt throughout the Department. His broad sympathies, lively imagination, and deep insight equipped him in a wholly exceptional way to direct and strengthen the links between the Department and industry. It was an article of faith with him that the future of Great Britain depends upon the effective use of science by industry. It was this faith which induced him, a man of the highest attainment in the field of pure scientific research, to devote himself, as he did unreservedly, to our work. The development of the research association movement, now taking place, owes much to his foresight, sympathy and advocacy. Equally stimulating was his influence on the scientific work of the Department. In our counsels he leaves a blank which cannot be filled; and the loss of his unsparing service, his genial personality, and his warm-hearted encouragement, may well fill the stoutest heart with dismay.

F. E. SMITH.

The Funeral of Lord Rutherford

WITHIN the ancient walls of Westminster Abbey and in the presence of a large gathering of men eminent in many walks of life, at noon on Monday, October 25, a typical English autumn day, the last remains of Lord Rutherford were laid to rest in the Nave near the graves of Newton, Kelvin, Darwin and Sir John Herschel. Thus another link was forged binding the Empire together, for Rutherford was the first man of science born in the overseas dominions to be buried in the Abbey. The honour thus accorded him is fitting recognition of the place he held among his fellows, and the memorable service at his burial, in its simplicity, beauty and dignity, was in keeping with the passing of a man of singleness of purpose whose whole life had been devoted to unravelling the secrets of Nature. There was no pomp or pageantry such as is seen at the burial of our great naval and military leaders, no word was said of his life or achievements, but a quiet air of sincerity pervaded the whole scene and left an indelible impression that it was all as he would have wished.

Among the large congregation, H.M. the King was represented by Lord Fortescue (Lord in Waiting). The Prime Minister was represented by Mr. G. P. Humphreys-Davies, the Lord Chancellor by Mr. Vernon Harington. Lord Halifax (Lord President of the Council), Lord Swinton (Secretary of State for Air), Sir Samuel Hoare (Secretary of State for Home Affairs), Sir Thomas Inskip (Minister for Co-ordination of Defence), Earl Baldwin and Mr. Ramsay MacDonald were present. Rear-Admiral A. Bromley represented the Secretary of State for Dominion Affairs and Admiral of the Fleet Lord Chatfield represented the Admiralty.

The ten pall-bearers were the High Commissioner for New Zealand, Prof. H. R. Dean (Vice-Chancellor of the University of Cambridge), Lord Dawson of Penn (president of the Royal College of Physicians), Sir William Bragg (president of the Royal Society), Sir Edward Poulton (president of the British Association), Prof. A. S. Eve, of McGill University, Prof. E. D. Adrian, of Trinity College, Cambridge, Sir Frank Smith, of the Department of Scientific and Industrial Research, Prof. W. L. Bragg, of the University of Manchester, and Sir George Lee, president of the Institution of Electrical Engineers.