

concrete reality which they do not exhaust. He was thus to some extent anticipating the merging of space and time into space-time, which is probably the most radical innovation introduced by the theory of relativity, and that aspect of it which is of chief philosophical importance. Of course, in the large volume published in 1921, Lord Haldane reasserted the same contention, here, however, as an outcome of the scientific investigation of the twentieth century. But he went now much further, and maintained that the theory of relativity is, in truth, simply an illustration of the application of what he called the philosophical principle of relativity to a special domain. By the term 'relativity' in the philosophical sense he understood the doctrine that Nature is unintelligible apart from its relation to knowledge, and indeed that individual knowledge is unintelligible apart from a structure which is 'foundational' in the knowledge of every individual knower. Einstein, he insisted, was concerned with a series of meanings which possess veracity only relatively to knowledge.

Notwithstanding the ingenuity with which this thesis was enforced, it has failed, I think it must be confessed, to produce conviction. So far as I can see, the physics of Einstein takes no more account of the relativity of Nature to knowledge than did the physics of Newton. It is true that in popular expositions of the theory reference is frequently made to the 'observer.' Yet that surely is merely an expository device for indicating that the relations observed are in each case dependent upon the space-time framework to which the *body* of the observer belongs. The 'observer' might be replaced by a photographic plate, and the facts with which the scientific theory of relativity is concerned would remain unaffected.

The interest of the book lay, however, not in its handling of the scientific theory of relativity, but in its comprehensive presentation of that form of idealism upon the elaboration of which Lord Haldane had spent so many years of patient thinking and reflection. This was far from being a mere re-statement of what he had said before; it was the result of a careful working over again of the old material, in the light of maturer insight and wider experience. He had not been influenced by the movements of speculation since the days of his Gifford Lectures. It now seemed to him advisable to name the essence or *primum* of reality not as thought or experience, but as knowledge,—knowledge in the fullest sense, including within it both feeling and conation. By 'knowledge' he evidently meant that which must in some way be conceived as a synthesis of both knowing and the known. Human experience was undoubtedly a type of knowledge; but it implied, as the ground of its possibility, knowledge that is final and ultimate. The world confronting us is, indeed, actual, and independent of us, its observers. Yet that is not the last word about either it or ourselves. Both belong to a greater entirety; and only in so far as they fall within the sphere of knowledge have they either being or meaning.

I have but little space left in which to refer to

Lord Haldane's activities as an educationist. No politician of his time was more alive than he to the necessity of a thoroughly efficient educational system for a democratic State. He saw clearly that no system of elementary education ever can be efficient unless it form part of one comprehensive scheme in which the universities are given the lead. Frequently he laid before large assemblies, sometimes of students and sometimes of business men and manual workers, his conception of the ideal of intellectual culture, and of what the effort to realise it would mean for the welfare of the whole community. He was an ardent supporter of the Workers' Educational Organisation and of the Institute of Adult Education. The younger civic universities found in him a staunch friend; and, in the address which he gave on being installed as Chancellor of the University of Bristol in 1912, he spoke with enthusiasm of their manifold opportunities. But he was not less attached to the university system of his native Scotland. He was Chancellor of St. Andrews as well as of Bristol. "The corporate spirit of University life," he told the students of Edinburgh as their Rector in 1907, "needs but little surrounding for its development, and that little it finds as readily in the solitude of the Braid Hills as on the banks of the Isis or the Cam, in the walks round Arthur's Seat as in the gardens of Magdalen or Trinity." Nor ought one to omit to mention the signal services he rendered as chairman of the Royal Commission on University Education in London, appointed in 1909. The Report of that Commission, a remarkably lucid and exhaustive document, was issued in 1913; and put forward recommendations of far-reaching import, the adoption of which would have meant the establishment of an adequate and worthy university for the metropolis. If it be permissible to note small things along with great, I should also like to place on record that one of the last acts of Lord Haldane was to preside, in July last, over a gathering of friends met to do honour to Prof. John Dewey, of Columbia, the distinguished American educationist, on the occasion of a brief visit of his to Great Britain.

English public life can ill afford to lose a man of the uniqueness of Lord Haldane. If he had devoted himself wholly to philosophy, he would probably have left behind him scientific work of greater originality. But if he had devoted himself wholly to politics, it is certain that he would have influenced the world far less than he did and would not have been the striking personality he was.

G. DAWES HICKS.

IN Viscount Haldane the Empire has lost one of its foremost citizens, a man to whose abilities and devotion it owes an incalculable debt. The work for which history will chiefly remember him was done in fields that seem to occupy opposite poles of practical activity—war and law. Yet the greatness of his achievements in regions so diverse is not to be taken merely as a proof of versatility—which is often shallow as well as brilliant—or of restless energies ever seeking new

worlds to conquer. It was due rather to qualities central and typical in him : namely, his power to see the vital needs of the community steadily and as a whole, his profound conviction that those needs can be met only by unremitting intellectual labour, and his extraordinary capacity for getting broad ideas translated into administrative detail. The immense value of his services at the War Office during the critically important period from 1906 to 1912 is now universally recognised, and is his most obvious claim upon the gratitude of posterity. But his work, since 1918, as a member of the Judicial Committee of the Privy Council may prove, in the end, to have scarcely less importance. For the War, which left nothing unchanged, has transformed the British Empire we know into a Commonwealth of Sovereign Nations, and so created problems, legal and constitutional, of the utmost gravity and delicacy. It is characteristic of Lord Haldane's profound practical intelligence that he appreciated at once the emergence and significance of the new order, and of his patriotism that, ignoring medical warnings, he spent the whole reserve of his physical strength in seeking to guide upon sound lines the most amazing and possibly the most hopeful political experiment the world has seen.

When we consider what the country owes to this great public servant and how inadequately the debt was acknowledged, one is tempted to think that it scarcely deserved him. It is true that the ignorant and almost insane detraction which drove him out of the Cabinet early in the War is now silent, and that during the last years of his life he enjoyed increasingly general respect. Yet the respect was undoubtedly cool—even, one must admit, a little grudging. This is explicable in part by his lack of certain personal and temperamental gifts that make an easy popular appeal ; but the fundamental cause lies in a defect of the public mind which has again and again been deplored in the pages of *NATURE*. We do not mind a minister's having a little learning, provided that he wears it solely as a flourish upon his more solid qualities ; but we are incurably suspicious of one who attempts to bring theoretical ideas to bear upon important public business.

Now Lord Haldane was guilty of this fault in its worst form. It would not have mattered that, bred a student of philosophy, he remained one to the end. The serious thing was that his philosophy was the mainspring of his life, and that he sought deliberately to bring his immense practical capacity under its control. His mind was formed, at Edinburgh and Göttingen, under Hegelian influences, and these remained strong with him throughout life. (A month before his death he told the present writer that he had returned to the great works of Hegel and was pondering them nightly, sentence by sentence, in bed ; and added, with pathetic humour, that he deemed himself to be the last Hegelian left in Britain.) The value of his contribution to the Hegelian tradition is considered in another article, but it is essential to note here that for him its central doctrine took the

form of a conviction that reality is to be identified with knowledge ; for that conviction gave unity and force to the whole of his life, and is the key to an understanding both of his achievements and of his limitations. From it was derived the profound appreciation of the value of science—rare both in a philosopher and in a minister of the Crown—which was expressed in his cultivation of personal relations with his great scientific contemporaries, in the eagerness with which he sought to grasp the significance of modern developments in biology and physics, and his ability to understand and utilise fully the services of expert advisers of the Government in matters of great national moment.

From it above all sprang his passionate belief in education. What Lord Haldane did in this field is not likely to be fully revealed, for so much was done behind the scenes and incidentally. But the cause of national education in all its grades had no more powerful friend ; and the immense progress that has been made in recent years owes a great deal to his wide vision, to his warm and watchful sympathy, and to the power of his persuasive advocacy exerted in quiet corners and at critical moments. University education, both in England and in Ireland, is particularly indebted to him ; and it was, perhaps, fortunate that the great friend of the new universities was one who had not been hypnotised by the traditions of Oxford and Cambridge. From Haldane's philosophical point of view, nothing was more essential to national wellbeing than a strong and comprehensive university system. The universities were, in his view, centres of consciousness where cultural and practical experience, in its chief modes, was to be worked up into that exact knowledge which would raise the level of reality of the nation's life. Thus is to be explained, for example, his enthusiastic co-operation in the founding of the London School of Economics and his general interest in enlightened professional education. From the same source sprang his invaluable faith in the destiny of such organs of general education as the Birkbeck College and the British Institute of Adult Education.

It was an unseemly jest of fortune that, in the public mind, Lord Haldane should be connected with the University of London mainly through his chairmanship of an unpopular Commission. The Report of that Commission was undoubtedly an extremely able document, full of interesting ideas courageously set forth, and inspired by a wide and lofty vision of the possibilities of the metropolitan University. The constitutional architecture it planned was, however, too formal, narrow, and precise, and it is unlikely that the untidy soul of the University could have inhabited it and grown in it happily. On the whole, it is lucky that events cut short a somewhat heated debate about its merits and demerits, and that the Departmental Committee, returning in 1925 to the insistent problem of the reorganisation of the University, could reconsider it in an atmosphere cleared by the storms of war. It would, however, be unjust not to recognise that the scheme of the Departmental

Committee embodied in the Statutes now awaiting confirmation, though it makes important concessions to historical features in the University which the Haldane Report treated rather shortly, yet draws from that Report most of its vital ideas. It must also be acknowledged that since 1913 feeling and opinion within the University have moved perceptibly and even strikingly towards a unity that makes those ideas more acceptable than they formerly were. It is too soon to prophesy about the University of London; but it may yet become a monument to the wisdom and imagination of those who saw in its possibilities of immense usefulness, and laboured to set it upon

the path of realisation. Among these Viscount Haldane will certainly hold a very high place.

Lord Haldane was so accessible and so widely known that it would be impertinent for one who cannot claim exceptional intimacy to attempt a sketch of his personality. Such a one may, however, be permitted to record that in prolonged conversations in recent years, during which the great statesman, student, and man of affairs talked freely about many phases of his wonderful experience, he never uttered a word of bitterness, and that one caught glimpses of a faith, a courage, and a spiritual nobility that could not but evoke reverential esteem.

T. P. NUNN.

News and Views.

THE members of the Council of the British Association elected at the Glasgow meeting are as follows (the names of new members are in italics): Prof. J. H. Ashworth; *Dr. F. A. Bather*; Rt. Hon. Lord Bledisloe; Prof. A. L. Bowley; *Prof. C. Burt*; Prof. E. G. Coker; Prof. W. Dalby; Dr. H. H. Dale; *Prof. C. Lovatt Evans*; Sir J. S. Flett; Sir Henry Fowler; Sir Richard Gregory; *Dame Helen Gwynne-Vaughan*; Mr. C. T. Heycock; Mr. A. R. Hinks; Sir Henry Lyons; *Mr. C. G. T. Morison*; Dr. C. S. Myers; Prof. T. P. Nunn; Prof. A. O. Rankine; Mr. C. Tate Regan; Prof. A. C. Seward; Dr. F. C. Shrubbsall; Dr. N. V. Sidgwick; Dr. G. C. Simpson. Prof. J. L. Myres and Dr. F. E. Smith have been re-elected general secretaries. During the past year the Council was again deprived of the presence of Dr. E. H. Griffiths, general treasurer, owing to ill-health, but it is gratefully recorded in the Council's report that he did not allow this to deprive the Council of his valuable advice and reports on the finances of the Association. Nevertheless, Dr. Griffiths again tendered his resignation, and the Council, with the deepest regret, felt that he should not again be pressed to withdraw it. In accordance with precedent, the Council consulted a committee consisting of the president, general officers, and ex-presidents, in considering the nomination to be made in the room of Dr. Griffiths, as a result of which Sir Josiah Stamp has now been appointed to the office of general treasurer of the Association.

AN afternoon meeting at Glasgow of Section D (Zoology) of the British Association was devoted to a discussion of the work of the *Discovery* expedition. Dr. S. C. Kemp opened with a general account of the expedition; readers of NATURE will remember that Dr. Kemp has contributed articles dealing with the expedition to our columns (Oct. 30, 1926, and May 19, 1928). Mr. E. R. Gunther then described the distribution of the plankton on the whaling-ground, and Prof. A. C. Hardy showed its curiously discontinuous character. Unevenness was first revealed by his ingenious 'continuous plankton recorder,' but systematic netting during long runs indicated that the particular plankton (*Euphausia*) which is the food of the whale exists in dense patches a hundred metres or so in diameter and a kilometre or so apart. Mr. N. A. Mackintosh gave many interesting facts

resulting from the examination of the carcasses of 1683 whales. The growth was traced from the earliest embryo $\frac{1}{2}$ in. in diameter, through the recognisable foetal whale of 6 in. long to the new-born 'baby' of 21 feet; then through lactation to weaning, and through adolescence to the astonishingly early maturity. The papers were discussed by Prof. Garstang, Dr. Chalmers Mitchell, Prof. Peacock, Mr. Heron-Allen, Dr. Cunningham, Mr. Arthur Earland, Dr. Bidder, Mr. Elmhirst, and others.

THE president of Section D, Prof. W. Garstang, in thanking the director and zoologists of the *Discovery* expedition for their communications, said that members of the Section had now heard preliminary accounts of all the *Discovery* researches. They had judged thereon that the scientific investigation had been well planned and well executed, and the interim reports alone were very valuable. In the name of Section D he assured Dr. Kemp and his colleagues that zoologists admire these achievements and the work which has led to them, and have full confidence that the further progress of the expedition will be marked by the successive attainment of valuable and well-founded results.

OWING to the regulations governing the introduction of scientific films into Great Britain, the paper by Prof. Rathjens on his explorations in Arabia had to be withdrawn from the programme of the recent International Congress of Orientalists at Oxford. It will be remembered that the Chancellor of the Exchequer has conceded that scientific films may be brought into England free of duty on a certificate from the Royal Society to the customs authorities that the film illustrates a scientific investigation (see NATURE, July 28, p. 138). Notwithstanding the fact that Prof. Rathjens on Aug. 9, and the secretary of the Congress on Aug. 10, had made application to the Commissioners of Customs for the admission of the film, and application was addressed to the Royal Society for the desired certificate, the customs authorities were prepared to admit the film only on a deposit of the duty, £31, 10s., "to be refunded in the event of the film being certified by the Royal Society." The ground for this decision was that the Royal Society being in vacation, it was difficult "to