

proliferation of a multitude of specialities. But these great new socio-technical problems and the systems they represent are now also generating strongly countervailing forces toward new unities, bringing together many different resources, and giving rise to a new synthesis of knowledge. For in every instance success will depend on the joint contributions of the physical and biological scientists, of economists and political scientists, of engineers and architects, of historians and philosophers. The task of articulating or welding together these components of learning into systems of understanding offers the highest intellectual challenge of our time.

As I have reflected on these matters—as I have pondered about how all this is to be accomplished and where—it has seemed to me that there exists nowhere at the present time any one institution or specific kind of organization which is in a position to undertake alone this monumental task. There is to my knowledge no single agency of government which has the necessary diversity of resources and the freedom of action. By their very character these problems lack the motive of profit which is the essence of private enterprise; and because they lead inescapably from the intellectual domain into the field of action, they present definite risks and perils for the university.

Yet it is only within the framework of the modern university that one finds the wide range of interests, a common ground for the exchange of ideas, a forum of discussion for scholars who draw on the arts and the humanities as well as on science and engineering. This is particularly true of an institution of the character of the Massachusetts Institute of Technology. I do not

believe that we can escape the responsibility of taking part in the solution of problems which touch most deeply on the welfare of our society. In the synthesis of knowledge, as well as in the creation of new learning, we must lead the way; and though at times we shall find ourselves drawn more deeply into the main stream of contemporary affairs, we shall continue in the process to educate with relevance to our age. This has indeed been our historic mission.

I have wanted in these few remarks to give a broader and perhaps a new insight into the changing role of science and technology. The essence of this change lies not so much in the expanding scale of discovery and application; it lies rather in the complete penetration of science and technology into every domain of human affairs. But principally it must be understood that these developments have brought a new order of responsibility for the consequences of progress to our society as a whole. Some of this responsibility falls on our institutions—on government, on industry and on the university. But in a free society the burden of obligation rests ultimately on the individual. You are in a superlative position to meet the technical challenges of our day. But you owe something more to the common account. You must be ever mindful of your own deepening responsibility, both to the profession you have chosen to follow and to the society which will look to you for positive action. Your life will be productive in proportion to the goals that you achieve; rewarding in proportion to your commitment to all that is of value; and full in the satisfaction that the world will be better for your efforts.

NEWS and VIEWS

Experimental Physics in the University of Liverpool:

Prof. L. L. Green

DR. L. L. GREEN, reader in the Department of Physics, has been appointed to the newly established chair of experimental physics in the University of Liverpool. Dr. Green was educated at Alderman Newton's School, Leicester, and at King's College, Cambridge, where he graduated B.A. in the Natural Sciences Tripos in 1944 and gained a Ph.D. in 1948. From 1944 until 1946 he was employed by the Department of Tube Alloys at the Cavendish Laboratory, Cambridge, where from 1946 until 1948 he held a Department of Scientific and Industrial Research research studentship. In 1948 he was appointed assistant lecturer at the University of Liverpool and later held the posts of lecturer, senior lecturer and reader. Dr. Green has lectured on nuclear reactions at conferences organized by the Physical Society and the Argonne National Laboratory and the Universities of Yale, Pennsylvania and Strasbourg. His published work has been mainly concerned with nuclear structure physics. Dr. Green will take up his duties on October 1.

Theoretical Physics in the University of Hull:

Prof. G. H. A. Cole

DR. G. H. A. COLE has been appointed to the newly established chair of theoretical physics in the University of Hull. Dr. Cole is thirty-six years of age and graduated at University College, London, with first-class honours in physics in 1949. He obtained his Ph.D. in Queen Mary College, London, in 1952, and the D.Sc. of the University of London in 1963. For a time he was a scientific officer in the Royal Naval Scientific Service and then returned to take up an Imperial Chemical Industries fellowship in University College, London. He left there in 1957 to take up a visiting assistant professorship in the University of California for a year. Since then he has held the appointment of senior theoretical physicist and executive of Clarke, Chapman and Co., Ltd., marine, mechanical and

electrical engineers, of Gateshead, Co. Durham. Dr. Cole's major interests have been in the fields of fluid dynamics, statistical mechanics of equilibrium and non-equilibrium fluids and of plasmas.

Physical Metallurgy in the University of Liverpool:

Prof. D. Hull

DR. D. HULL, senior lecturer in the Department of Metallurgy in the University of Liverpool, has been appointed to the newly established chair of physical metallurgy. Dr. Hull, who is thirty-three years of age, was educated at Baines Grammar School, Poulton-le-Fylde, and at University College, Cardiff, where he was awarded the degree of B.Sc. with first-class honours in metallurgy in 1953, and the degree of Ph.D. in 1956. In 1954 he was awarded a Students' Essay Prize of the Institute of Metals, and in 1955 the second prize in the British Association for the Advancement of Science Endeavour Competition. During the period 1956-60 he was employed in the Metallurgy Division of the Atomic Energy Research Establishment at Harwell and the Clarendon Laboratory, University of Oxford, being appointed scientific officer in 1956, and senior scientific officer and section leader in 1958. From 1959 until 1960 he was secretary of the Basic Properties Committee of the Inter-Services Metallurgical Research Council. He was appointed lecturer in metallurgy at the University of Liverpool in 1960 and senior lecturer in 1961. He has been a member of the Basic Properties Committee of the Inter-Services Metallurgical Research Council since 1961. He has acted as consultant to Manlabs, Cambridge, Massachusetts, to the Atomic Energy Authority and to the International Research and Development Co., Ltd.

Mathematical Statistics in Monash University:

Prof. P. D. Finch

MR. P. D. FINCH, who is thirty-four years of age, has been appointed professor of mathematical statistics in