

of resolving the human problems which will also flow from them. I would not know how to set about achieving a better understanding of the factors which govern even the rational modes of human response and behaviour. The most I can do is to hope that more good people will devote themselves to the search for it—not in expectation of early benefits, but because longer-term ones will not come otherwise.

I have tried to portray the need for, and some of the difficulties that beset, the formulation and implementation of a scientific, technological and technical manpower policy. This is, of course, only one aspect of manpower policy within the context of national policy as a whole, and here we are far from having reached a clear concept of the kind of country, and society, we would wish to see emerge with the aid of science and technology.

My main theme has been the strengthening of technology. This is only one of the means to the achievement

of the wider aims that should inspire us. But it is an indispensable means, since I am convinced that only through the material benefits that flow from successful technology shall we be able to afford to do the things which most need doing.

- <sup>1</sup> Carter, C. E., "The Distribution of Scientific Effort", *Minerva* (1963).
- <sup>2</sup> *Scientific and Technological Manpower in Great Britain*, 1962 (H.M.S.O., Cond. 2146, Oct. 1963). (*Nature*, **200**, 297; 1963; also p. 1133 of this issue.)
- <sup>3</sup> Oxford University Department of Education (1963).
- <sup>4</sup> Supplied by the Office of the University Grants Committee.
- <sup>5</sup> Allanson, J. T., *Education*, **24** (May 24, 1963).
- <sup>6</sup> Dame Kathleen Lonsdale.
- <sup>7</sup> *Concise Oxford Dictionary*.
- <sup>8</sup> *Engineering Design*, Department of Scientific and Industrial Research (1963).
- <sup>9</sup> See Sir Christopher Hinton's Presidential Address on "Design and Research" to the British Electrical Power Convention, June 1963, for a stimulating treatment of this subject.
- <sup>10</sup> Graham Clark Lecture, *Inst. Civil Eng. Proc.*, **19** (July 1961). First Handley Page Lecture, College of Aeronautics, Cranfield (May 1963).

## NEWS and VIEWS

### Chemistry at the University of East Anglia:

Prof. N. Sheppard

DR. N. SHEPPARD has been appointed professor of chemistry in the School of Chemical Sciences in the University of East Anglia, Norwich. Dr. Sheppard went to Hymers College, Hull, and was an undergraduate at St. Catharine's College, Cambridge, from which he graduated in 1943. During the Second World War he worked with Dr. (now Sir) Gordon Sutherland in the Department of Colloid Science, Cambridge, on the infra-red spectra of rubbers. He obtained a Ph.D. degree in 1947 and then spent a year as visiting assistant professor at the Pennsylvania State University studying Raman spectroscopy with Prof. D. H. Rank. On returning to the United Kingdom, he rejoined the spectroscopy group in the Department of Colloid Science, Cambridge, as a Ramsay Memorial Fellow and later as an 1851 Senior Exhibitioner. In 1956 he was appointed assistant director of research in spectroscopy in the University Chemical Laboratory, Cambridge, and a Fellow of Trinity College. His research interests have been concerned with the application of spectroscopic methods to the investigation of molecular structure and molecular dynamics. His group has applied infra-red spectroscopy to the examination of problems in molecular conformation and internal rotation, hydrogen bonding, and physically and chemically adsorbed molecules. In nuclear magnetic resonance spectroscopy the group has principally studied the steric dependence of the (H,H) coupling constant in proton spectra of hydrocarbon groupings—particularly those of simple and symmetrical molecules obtained with the help of spectra from <sup>13</sup>CH groups. Structural investigations of organic natural-product and inorganic co-ordination compounds have been made in collaboration with colleagues at Cambridge and elsewhere. Dr. Sheppard has taught physical chemistry at all levels and given undergraduate and postgraduate lecture courses on spectroscopy.

### Mechanical Engineering at the Manchester College of Science and Technology:

Prof. J. K. Royle

DR. J. K. ROYLE has been appointed to a second chair in mechanical engineering in the Faculty of Applied Science of the University of Sheffield as from April 1, 1964. Dr. Royle, after graduating at the College of Technology, University of Manchester, in 1944, became a scientific officer at the Royal Aircraft Establishment, where, among other things, he worked on power plant, aerodynamics and supersonic flow. In 1949, Dr. Royle was appointed assistant lecturer in mechanical engineering

in the College of Technology, Manchester, lecturer in 1953, and senior lecturer in 1961. He was an associate professor of mechanical engineering at the Massachusetts Institute of Technology for the session 1960–61. Dr. Royle's interests have been in the teaching of fluid mechanics and in research into hydraulic servo-mechanisms. He is the author of a considerable number of papers, for one of which he was awarded the Bernard Hall Prize of the Institution of Mechanical Engineers in 1959. He has acted as consultant to many firms and organizations and he holds a number of patents relating to machine tools, to which many of his developments in hydraulic servos have been applied.

### The National Research Council (Canada) Steacie Memorial Fellowship:

Prof. N. Bartlett

THE National Research Council of Canada has announced in Ottawa that Prof. Neil Bartlett, associate professor of chemistry in the University of British Columbia, has been awarded the first E. W. R. Steacie Memorial Fellowship by the National Research Council (Canada). This senior research award, established by the Council in March 1963, perpetuates the name of Dr. E. W. R. Steacie, president of the Council during 1952–62, and one of Canada's most distinguished scientists (*Nature*, **196**, 110; 1962). The purpose of the fellowship is to give outstanding and promising young staff members of Canadian universities the opportunity to spend two or three years in uninterrupted research. During his tenure of the award, Prof. Bartlett will be relieved of all teaching and administrative duties. He will receive his normal university salary, paid in equal shares by the University of British Columbia and by the National Research Council. Prof. Bartlett, who is thirty-one, became well known when, in October 1962, he prepared the first true compound of the rare gas xenon. By successfully combining xenon with another gas to form a stable chemical compound, a reaction previously regarded as impossible, Prof. Bartlett not only overthrew a number of existing theories on chemical bonding, but also opened up a whole new field of scientific investigation. As a result of his work with xenon, the chemistry of the rare gases is now being examined in laboratories all over the world. Prof. Bartlett is a native of Newcastle upon Tyne, and holds the degrees of B.Sc. and Ph.D. of the University of Durham.

### The European–American Nuclear Data Committee

DR. E. BRETSCHER, head of the Nuclear Physics Division of the Atomic Energy Research Establishment,