

The Relationships Between Electroencephalographic and Psychological Data in Normal Adults

Dr. P. F. Werre. Pp. vii+152. (Leiden: Universitaire pers Leiden, 1957. Distributed by Messrs. Martinus Nijhoff, Lange Voorhout 9, The Hague.) 15 florins.

BERGER'S discovery of the potential changes in the brain, which he first published in 1929 and which was confirmed by Adrian and Matthews in 1954, led automatically to the foundation of the science of electroencephalography. Its value was realized when Gibbs, Gibbs and Lennox showed that epilepsy could be revealed or confirmed by the electroencephalogram, and this was further enhanced by its use by Jasper and Walter in locating brain lesions. In the Second World War the electroencephalograph was regarded as a valuable instrument in the localization and assessment of brain damage, mostly of traumatic origin. To the neurologist it is now almost as valuable as X-rays to the surgeon. The next step in the use of electroencephalography is obviously to unravel the problems of psychology. A certain amount of work has been done on patients suffering from psychopathic personalities but much remains to be discovered with normal people in such mental states as frustration, anxiety, insecurity, anger and depression. The aim of this thesis is to record some of this work performed by Dr. P. F. Werre in the Neurological Clinic of the Academic Hospital at Leyden.

The book consists of three parts, comprising a survey of the literature, records of experiments and conclusions. In his survey the author considers the literature on electroencephalographic findings in sleep, emotion, anxiety, fatigue and relaxation, the effect of sensory stimulation and mental activity, etc. In the records of his experiments he discusses its relation to the psychology of the subjects. He is cautious in his conclusions but thinks that some definite psychological grouping of people on the basis of the electroencephalogram can be made. This seems to be particularly so in such matters as social insecurity and frustration. All those interested in electroencephalographic work will wish to read this book. Indeed, it is valuable if only for the bibliography, which covers eighteen pages, and for the survey of the literature which occupies sixty-one pages. Although the experiments were conducted on only a small number of subjects the tentative conclusions offered are very suggestive.

CLIFFORD ALLEN

Reason and Chance in Scientific Discovery

By Dr. R. Taton. Translated by A. J. Pomerans. Pp. 171+32 plates. (London: Hutchinson and Co. (Publishers), Ltd., 1957.) 30s. net.

IT is gratifying to see an English translation of Taton's dissertation on the art of scientific discovery. This is, of course, by no means the first attempt to analyse the operation of the creative process; but many of the Continental examples of originality selected by the author for analysis are perhaps new to many British readers. Relying largely on case-histories, the accounts of which are well illustrated by diagrams and many excellent plates, Taton discusses such matters as intuition, the automatic and unconscious activity of the human mind, the power of new instruments and the role of chance and accidental observations in the furtherance of human knowledge. It is, indeed, an exciting theme

so long as the reader of these post-mortem analyses does not count it all to be an infallible prescription for discovery. Too often the discoverer, in retrospective self-analysis, is apt to conceal the amount of what Katherine Mansfield calls the "terrific hard gardening"—the laborious, conscious and voluntary informing and equipping of the mind which must precede the break-through on the scientific front. As for the great significance of being able to recognize the unexpected, it is relevant to recall the dictum of Pasteur that chance favours the prepared mind. Still, Taton's book is a scholarly contribution to scientific history, and might, for example, be recommended for parallel reading with Brewster Ghiselin's excellent book on the creative process in the world of music and letters.

EDWARD V. APPLETON

The Transformations of Man

By Lewis Mumford. (World Perspectives.) Pp. 192. (London: George Allen and Unwin, Ltd., 1957.) 15s. net.

IN this book the author, in seven successive chapters, analyses the transformations of man in a series of stages from his animal or pre-human existence, through what Mumford classifies as archaic man, civilized man, 'axial man', of the 'axial' or universal religions, old world man of the Old World societies, new world man of the New World, to 'post-historic' man of the present time. Pointing out that man's humanity is now threatened by the possibility of barbarism more elemental than was ever encountered in historic times, he postulates the need of a world culture, and that man's principal task to-day is to create a new self, adequate to command the forces that now operate so aimlessly and compulsorily. He believes that humanity still has the technological, as well as the spiritual and personal resources, to create a future which offers scope to human personality, and in his final chapter, "Human Prospects", attempts to indicate something of what is involved in checking the present dissipation of man's potential energy, vitality and creativeness and turning them to this purpose.

To readers of this series that began with "Technics and Civilisation" and ended with "The Conduct of Life" this will be a disappointing book. Neither in scale nor in execution does it match the earlier books. It is more difficult to read, and neither the philosophy nor the argument is expounded with the coherence and cogency that are demanded of an author who assays to cover his field on his own authority essentially unsupported by citation or reference.

Veterinary Toxicology (formerly Lander's "Veterinary Toxicology")

By R. J. Garner. Pp. vii+415. (London: Baillière, Tindall and Cox, Ltd., 1957.) 35s. net.

THE radical changes that have occurred in the sources of toxic hazards to animals can be seen in comparing the present volume with the early editions of its forerunner, Lander's "Veterinary Toxicology". In the latter, more than half the book was devoted to poisonous plants, while in addition, the majority of organic poisons described were of plant origin. Now plants form but one of six sections in the book, and it is clear that the domestic animal must face a barrage of synthetic compounds largely comprised of the herbicides used to destroy the plants themselves. Perhaps in future editions it will