

## Book Reviews

### A MULTI-DISCIPLINARY ARRAY

**Scientific Basis of Drug Dependence.** A Symposium edited by HANNAH STEINBERG. London: J. and A. Churchill Ltd. 1969. Pp. 429. Price 100s.

This excellent book is the fruit of a symposium held in April, 1968. There are 26 papers by over 50 authors. The multi-disciplinary array of these contributions—many of them by acknowledged experts—reflects the broad front on which the problem of drug dependence is now being tackled. The reader is led smoothly from the esoterics of molecular and cellular biology through the animal laboratory to the fields of social research and epidemiology and on to the hopes of the 'therapeutic community'. The fact that all these approaches to drug dependence are represented under the same cover is a welcome attempt to link the test-tube, the café and the couch. No aspect of relevance is left out, though prominence is given to physiological and biochemical mechanisms. What is needed, however, is an authoritative overview relating the advances made in different areas.

In a historical survey Sir Aubrey Lewis outlines the inconsistencies of previous definitions of addiction, habituation, physical and psychological dependence, which have changed as repeatedly as the expert official committees responsible for them. The latest of these, a statement prepared in 1965 by four experts on behalf of the World Health Organization, is also due for burial. The customary distinction between physical and psychological dependence is no longer tenable. Strong dependence may occur in the absence of a classical withdrawal syndrome, and there is no reason to presume that the basis of so-called psychological drug dependence is not physiological. In the words of Oswald *et al.* (p. 257) 'mental events are determined by brain (physiological) events . . . Drugs which are said to produce psychological dependence do so because they affect brain physiology'. Oswald goes on to show that in their action on paradoxical sleep, amphetamines (hitherto considered capable of inducing psychological dependence only) are similar to barbiturates and display the phenomena of tolerance and measurable physiological change for as long as two months after withdrawal. On the other hand, G. E. Vaillant explains how the withdrawal syndrome (in this case morphine),

so long regarded as pathognomonic of the physically dependent state, may occur as a classically conditioned response in man and animals. It can also be induced by hypnosis. In opening the first session of the symposium, Professor W. D. M. Paton suggested as a working definition 'that drug dependence arises when as a result of giving a drug, forces—physiological, biochemical, social or environmental—are set up which predispose to continued drug use'.

Papers by W. D. M. Paton, H. O. J. Collier, B. M. Cox and M. Ginsburg provide evidence to suggest that at the synapse, dependence-producing drugs probably act by holding back the release of transmitter substances. Tolerance may develop in various ways (i) accumulation with overflow of the transmitter substance ('surfeit' theory) (ii) 'super-sensitivity' on the other side of the synapse due to receptor proliferation or improved transmitter-receptor interaction (iii) opening up of alternative or 'redundant' pathways (Martin's theory). Whatever the actual mechanism, protein synthesis seems to be involved. The withdrawal syndrome is caused by the rebound that occurs when the brakes of the drug's inhibition are suddenly removed. Psychological withdrawal symptoms may be explained by similar damming back and subsequent release of inhibitory influences on the hypothalamic reward system. A different aspect of tolerance is described by H. Remmer, who shows how a number of drugs induce the production of enzymes that hasten their own oxidative breakdown.

On to the animal cage, where ingenious self-injection and oral self-administration systems are set up to study the acquisition and nature of drug dependence in rats and monkeys. The human predicament is never far from the animal experimenter's mind, and evidence is forthcoming to demonstrate the importance even in animals of social reinforcement, overcrowding and other environmental factors.

In the social and clinical section of the book differences between the American and the British heroin scene are discussed by J. H. Willis. In their description of heroin use in an English provincial community J. Zacune and his colleagues show the advantage of going out and studying heroin users in their own social environment rather than waiting for them to find their way to the hospital clinic.

Two stimulating contributions from I. Chein and G. E. Vaillant suggest that the social rewards of the hunt for junk may be a more important motivation to the addict than the pharmacological effects of the drug. Much of the heroin used in New York is apparently so adulterated that true pharmacological rewards are minimal and addicts may remain hooked on lactose. Total involvement in the drug-taking role may help poorly adjusted personalities to a meaningful self-identification by what Chein calls—'the humanizing function of heroin addiction'.

Turning to treatment, G. E. Vaillant's twelve year follow-up study of 100 hospitalized addicts makes a case for the harsh approach. Comparing the effect of four types of institutionalization—voluntary hospital, imprisonment under 9 months, imprisonment over 8 months but no parole, imprisonment over 8 months plus parole over one year—he concludes 'it is clear that a long prison term coupled with a year of parole was vastly more effective than any of the other three methods'. Over 60 per cent of the addicts treated in this way achieved one year's abstinence, compared with less than 5 per cent of those who had short prison terms or voluntary hospitalization. It is difficult to know whether to regard Vaillant's evidence as cheering or depressing. The humane approach is propounded by M. S. Rosenthal, who describes the work of a self-running 'therapeutic community' at Phoenix House in New York, but it is too early to assess results.

The reviewer recommends this book to psychiatrists with an interest in drug dependence (including alcohol and barbiturates)—and this should mean all general psychiatrists.

M. A. HAMILTON RUSSELL.

#### MAN'S MORTALITY

**Death and Bereavement.** Edited by AUSTIN H. KUTSCHER. Springfield, Illinois: Charles C. Thomas. 1969. Pp. 364. Price \$8.00.

**Man's Concern with Death.** By ARNOLD TOYNBEE, A. KEITH MANT, NINIAN SMART, JOHN HINTON, SIMON YUDKIN, ERIC RHODE, ROSALIND HEYWOOD and H. H. PRICE. London: Hodder and Stoughton. 1968. Pp. 280. Price 45s.

It seems that humanity is once again trying along somewhat newer lines to come to grips with the mortality of man. From being practically a taboo topic, it is now admitted as a reasonable cause of concern, and so not merely for neurotics and melancholics. These two books, one American, one British, illustrate a current stage in the loosening up process that still has a very long way to go. Each of them, in

fact, still shows many signs that the thought of personal death is for most people almost unrelievedly repugnant, an area of blackness, now hardly any longer touched by the sickly light of hopes of personal salvation and immortality. We have been started off by the existentialists in our modern re-orientation; but it seems that we are still far from achieving the robust and unworried acceptance of death shown by many peoples living in a primitive technology, for whom death in the circle of family and friends is an everyday occurrence. Indeed, we still have a long way to climb to reach the philosophical equanimity of the stoics of Greece and Rome. We are trying; but at present we are still scratching at a sore spot.

The American group of essays is edited by Austin Kutschler, a Professor of Stomatology who is the President of the Foundation of Thanatology, an institution that publishes its own Archives. It contains 41 mostly very short essays, grouped under the titles *Dying and Death, Philosophy—Religion—Survival, Bereavement, Practicalities of Recovering from Bereavement, Rebirth of the Spirit*, and in Parts VII and VIII a little anthology of poetic quotes and potted résumés of recent books and articles. The orientation is extraverted; the aim is above all to be helpful. The 'problem of death' is thought to be 'insoluble', but it is recommended that one should face it. Perhaps sensibly, much more interest is given to the ways that the bereaved can be helped than to the hopeless situation of the man who looks forward to dying and doesn't like the prospect. Some of the help given is excellent, for instance five pages of serious music selections which had the effect of whetting my appetite. But these little essays are so short that they only skim the surface of the world through which the traveller should pass.

The British work, which is dominated by the contributions of Arnold Toynbee, is a much more introverted one and of another calibre. Professor Toynbee is now an old man, and in the final chapter he offers a personal attitude, a solution one might even call it, which is moving in its humanity and wisdom. Before we get to this Epilogue, we have been taken over a great range of territory. Death and dying are handled from medical points of view by Keith Mant, John Hinton and Simon Yudkin. Oriental and Judaeo-Christian philosophy are discussed in a scholarly and instructive way by Arnold Toynbee and Ninian Smart. For those who long for personal survival there are essays in Part III; 'Frontiers of Speculation', which are not an insult to one's intelligence. This is a work not lacking in profundity, and indeed making a serious effort to measure up to its tremendous theme.

ELIOT SLATER.