

Book Reviews

WHAT MONEY CAN'T BUY

Run, Computer, Run

The Mythology of Educational Innovation. By Anthony G. Oettinger, with the collaboration of Sema Marks. (Harvard Studies in Technology and Society.) Pp. xx + 302. (Harvard University Press: Cambridge, Massachusetts; Oxford University Press: London, August 1969.) 58s.

THE National Council of Educational Technology is the United Kingdom body whose duty it is to see what can be done to use new technologies in education and training in order to make learning and teaching more effective. Work has been done on television, on "learning packages", and on other devices; but the major project which it has taken on board has been the application of the computer to education. A series of studies culminated in a proposal by a committee, which I had the honour to chair, that a coordinated programme of development should be begun in Britain. Its conclusion was that computer-aided instruction was on its way. The job was partly to develop computer techniques to make them satisfactory, but above all to integrate c.a.i. (as it is called) into the education process in a humanizing as well as an efficient way.

This book by Dr Oettinger and Miss Marks is part of a project on technology and society now under way at Harvard. It is, in essence, a long pamphlet, written for persuasive purposes, as the absence of an index shows (surely an odd omission in a publication by a university press). It has, as is fairly typical of some American books, a grotesque and fulsome list of indebtedness, as though the authors had crossed the Polar Ice Cap on hands and knees rather than written an essay. Their thesis is a simple one. It is that the days of innovation in a technological sense in education are only just beginning and that they will go much further. This innovation holds out bright hopes for education. "One immediate interesting consequence of these visions is that they leave no obvious intellectual need for the separation of children in grades or for other forms of lockstep. The child can progress through the system as rapidly as he is able or wishes to. Another interesting feature of the system is that it relieves the school of what is the bulk of its concern today, namely the abstract and the verbal. The school may concentrate instead on the concrete, the social, and the human" (page 8).

But to achieve anything like this, a great deal of costly effort is necessary. (My own studies have shown that new techniques in education are invariably cost raising; one hope of founding NCET was that its efforts would save part of the educational budget—it is a false hope.) Above all, it needs sensitive, intelligent and well educated teachers, always scarce. Any move, too, to self-study methods of education might be helpful to the gifted and highly motivated, and bad for the less gifted working class child. Oettinger's description of the problems, and what the computer can do, has been superseded by NCET's studies, but it is still a useful survey.

His useful contribution is to be found in the description of the sheer technical primitiveness of most educational

technology. I have seen TV in schools, for example, where the small screens and bad sound were not helped by badly adjusted sets with slipping images. And, in America especially, the poor quality of the material transmitted has to be seen to be believed. In the American colony of Samoa much of the instruction is by television. On Margaret Mead's island the culture is being destroyed by these dim technological teachers as surely as napalm and high explosive have destroyed the Vietnamese culture.

Oettinger also quite rightly points out that systems analysis, which is supposed to be a prerequisite to the reconstruction of education to make it possible to use educational technology, is a subtle and difficult process, not capable of short-term use in so complex a field.

The most fundamental point is, however, a simple one. American education is fairly rigid and unimaginative. A growing number of persons wish to change it. (English education is also rigid and unimaginative—but not to the same extent or in the same way as in America, I would venture to assert.) America being America, a technological breakthrough is a good thing, whereas an ideological change would be resisted. But technological change is only beneficial when it leads to better education. To get a better education requires a profound ideological change by teachers, administrators and parents. We have seen such a change here in England in many of our primary schools, without extra money and without technological help. The Americans want to buy change by spending money on computers. They can't.

JOHN VAIZEY

PSYCHOANALYSIS EXPLAINED

The Logic of Explanation in Psychoanalysis

By Michael Sherwood. Pp. x + 276. (Academic Press: New York and London, April 1969.) 89s.

DR SHERWOOD treats his subject by examining one of Freud's own published cases, that of the "rat man", as a paradigm of psychoanalytic explanation. His concern is to see how the logic of explanation displayed in this case compares with that of more accepted scientific explanation. Thus, given the repute and general nature of the case, he is not concerned with its truth, its detailed accuracy, nor the refinements later analysts might wish to add. His contribution is not to psychoanalysis but to its (non-psycho-)analytic philosophy.

The author's method is first to give a general analysis of scientific explanation, leaning heavily on such standard works as that of Nagel, and then to consider theoretical objections to applying this analysis to explanations of human behaviour. These disposed of, he presents the selected case in some detail, with enough background in the history and Freudian theory and terminology to make the case intelligible to outsiders. The thesis is then considered and rejected that there is here a "separate domain" of actions, to be explained in terms of reasons, distinct in category from that of, for example, bodily movement, to be explained in terms of causes. (Not, of course, that Sherwood denies the obvious and important distinctions between actions and movements.) Finally, the importance of psychoanalytic narrative is brought out and the contextual character of its explanation stressed, along with the (rather overstated) inadequacy of the hypothetico-deductive model developed largely from explanation in the physical sciences.

The book is undeniably useful, even at the rather elementary level it aims to treat the subject. Level-headed and philosophically well versed treatments of psychoanalysis are rare enough to be very welcome. The general level of the subject is shown by the abysmal arguments Sherwood feels obliged to refute to make what should be a plain case for applying scientific method

in this field. Given this, it is a pity that the positive philosophical analysis is so thin, as I suspect the presentation of the psychoanalytic material might strike a professional analyst as being. The author is better at clearing up a messy literature than in adding substantially to the best of it.

This judgment can be supported with one illustrative point. It is granted early on (page 75), as part of what constitutes a psychoanalytic explanation, that the literal truth of childhood incidents referred to in it need not be checked; it is enough that they are part of the patient's "psychic reality". That may be standard practice, but in a discussion of the logical status of such explanation, it needs more questioning than it gets. It makes a great difference, for example, to its causal status, whether such incidents themselves, or merely their analytically inspired and possibly inaccurate recollections, are the material of psychoanalytic explanation, even if it makes no odds to the therapy. One would naturally prefer the former, to give scope for independent (for example, neurophysiological) enquiry into the presence of the persisting personal characteristics induced by the incidents, which are invoked in explaining behaviour years later. Analysts, however, Sherwood notes uncomplainingly, give us the latter, and this should really have provoked a deeper discussion of the explanatory value of narratives which, for all the narrator cares, may be largely fictional.

Similarly, many other points in the book provoke a desire for more detailed and searching enquiry along Sherwood's very sensible lines. In short, it is a good introductory book to a field strewn with pitfalls; a book to be read, but by no means a book to be satisfied with.

D. H. MELLOR

REACTIONS TO INJURY

Tissue Repair

By R. M. H. McMinn, with a chapter by J. J. Pritchard. Pp. ix + 432. (Academic Press: New York and London, 1969.) \$23.50; 219s 4d.

THIS book is devoted specifically to histological and cytological details of repair in mammalian tissues and organs. It is an attempt at a comprehensive survey and includes summaries, and in places details, of many experiments about repair and regeneration of tissue after a variety of simple injuries. It is thus of interest to all those who work in these fields and to others, such as pathologists, who are confronted with the understanding of such problems when the aetiology is a natural disease process. Those who are active researchers into tissue injury and repair usually work with one or a few tissues in the fundamental issues of which they are well steeped. To these it is very useful to see accounts of and references to work in other tissues, to find out what problems are near solution and the many which are wide open.

Thus, those who seek a solution to the factors controlling liver regeneration will find in the excellent first chapter that the origin of fibroblasts is still disputed and the reasons for the contraction of wounds are still poorly understood. The author's conclusion that contraction probably has a cellular basis and that fibroblasts are in some way responsible is a return to square one. This indication of slow progress to understanding, in spite of the numerous experimental approaches, can be found in many places; for example, the origin of myoblasts in chapter three, and the still unsolved problem of the factors controlling liver regeneration in detail. The critical discussion of such problems is an undoubted merit of the book.

The chapter on bone is stimulating and simple; that on nerve covers most of the classical work on the subject, but surprisingly omits any reference to segmental demyelination. Biochemical aspects of the problems are

not discussed in any detail, although references are given to reviews. This is perhaps wise if the volume was to be a moderate size, but it is surprising that there is little or no mention of the relevance of immunology to repair and regeneration. References to grafting are to autographs from a descriptive angle and the modification of the reactions in homografts is hardly discussed. The changes in gastric mucosa in pernicious anaemia are described, but the fact that these lesions result from an auto-immune reaction is not mentioned.

The consideration of repair as seen in human disease is somewhat summary and the pathologist will be disappointed with the phrase "a discussion of the complexities of human liver pathology is not called for here", for it is in such complexities that fundamental questions are raised. The merit of the work that is presented makes one wish that the author had used his wide experience to define such fundamental questions from his angle. This would mean a longer book or a sequel—the contribution of Julian Huxley when he took a look at the problem of cancer comes to mind.

Autoradiographic and electromicroscopical as well as some histochemical observations are referred to in many sections, but one would welcome more of these as well as more discussion of their limitation. Pele's (1965) cautionary warning about the significance of DNA labelling with tritiated thymidine is referred to, but this method is used so frequently in experimental investigations that it should have been critically discussed.

Nevertheless, the book as a whole is very valuable, and the exposition is simple and clear. If I am like Oliver asking for more, it is not because there has been no supper.

J. F. SMITH

FISHES WHICH GROPE IN THE DARK

L'Evolution Régressive des Poissons Cavernicoles et Abyssaux

By Georges Thinès. Pp. 394. (Masson et Cie: Paris, 1969.) 95 francs.

SYSTEMATISTS, geneticists, physiologists, ethologists and ecologists do not often become closely involved in each others' work. One promising exception is through the study of cave faunas, which are relatively simple in nature. Though there is much to be learned of subterranean space and its life, certain cave systems, particularly in Africa and America, have now been well explored from geological, hydrological and biological points of view. Interpretation of these findings has not only stimulated the foregoing specialists, but also been a challenge to evolutionary biologists.

The present work is concerned largely with cave dwelling fishes. Professor Thinès, who has worked in African caves and studied the behaviour of cave fishes for the past fifteen years, makes full use of his special skills, and they are literary as well as scientific. Like other cave biologists, his study of regressed visual and pigmentary systems has led him to compare and contrast such structures with those in deep sea fishes that live below the threshold of light. Moreover, there are blind fishes in littoral and brackish waters, which are also considered.

More than half of this well planned book is devoted to a systematic review. Under each species is given its synonymy, a general description and, wherever possible, full consideration of its regressed features, habits and habitat. There are many illustrations. We learn that ninety-five species of blind fishes are known at present, forty-four from fresh waters, thirty-two from marine waters and nineteen from brackish waters. The best studied freshwater species are the characid, *Anoptichthys jordani*, the cyprinids *Caecobarbus geertsi* and *Typhlogarra widdowsoni*, and the amblyopsids. Of the deep sea, bottom