

YOU TOO CAN BE CREATIVE

Creativity. Edited by P. E. VERNON. Penguin Books, Ltd. 1970. Pp. 400. Price 50p.

Some contingencies in life are highly predictable. One is that when Professor Vernon undertakes to edit a selection of readings on such a subject as this, it will be encyclopaedically comprehensive and generously supplemented with references. Everything to be expected of him has been amply satisfied. Of the 27 readings, all but six are excerpts from books which are or have been influential, and among the articles are four reviews which also point the way to further reading. A better introduction to the subject could hardly be desired.

This does not imply that everything in the contents is above criticism. What is asserted on one page is denied on another, and the complete book resembles the standard B.B.C. discussion on any subject of public interest, where every view must be ably expressed and equally persuasively balanced by an opposing one, and conclusions are strictly out of bounds. Anyone who picks the book up with ideas of his own will put it down with a properly humble respect for the impermeable obscurity of the subject and the intellectual brilliance of those engaged in the study of it.

Another equally predictable contingency is that the psychoanalytically minded contributors will trace the origin of all creativity to the unconscious. Here is E. W. Sinnott: 'Evidently creative imagination is especially active at the mind's unconscious level. . . . Psychology has little to tell us yet of what is happening here. In dreams and half-dreaming states the mind is filled with a throng of images and fantasies. The whole unconscious is presumably occupied with such, their source lying in memory and experience of the past and perhaps also directly in the processes of life itself. Here, we should remember, is the place where matter, life and mind are most inextricably mixed. Here, etc. . . .' Sinnott is especially to be congratulated on his elegant and effective use of the word 'presumably'. It lies tucked away in the heart of the paragraph like a caterpillar in a cabbage.

Another virtual certainty is that the psychometricians will explain creativity as the resultant of a combination of primary traits. Guilford leads the way, followed by Cattell and Burt as well. The main difference between them is that they each offer a different selection of primary traits. A deliciously pungent antidote comes from L. Hudson.

The influence of J. P. Guilford's presidential address to the American Psychological Association (1950) is attested in many of the articles. Batteries

of psychological tests have been developed for measuring 'creativity', and it has been found that creativity can be promoted by suitable training. Many American universities now provide courses in creative problem-solving. Parnes mentions that 'On the West Coast, San Jose State College has taken the lead with an annual five-day Creative Education Institute which offers graduate credit'. Perhaps there is no harm in spreading the glad tidings that **You too can be Creative** to people who have previously believed themselves incapable of more than responding to conditioned or unconditioned stimuli by behaviour within their repertoire.

It is generally agreed that present-day society suffers from a deficiency, not an excess, of creativity. More is needed to preserve the American way of life in the space age; as Guilford says, 'The most urgent reason is that we are in a mortal struggle for the survival of our way of life in the world'.

Whether a selection or training procedure is good or bad can only be decided by validating it against reliable criteria, which are not easy to obtain unless experimental subjects undergo the same trials in sufficiently large numbers and successes can be clearly distinguished from failures and are not too disproportionate in numbers. Then one is confronted with finding a conveniently small number of common psychological variables to account for the difference. R. J. Shapiro rightly calls attention to the problem of finding criteria of creativity. Is there much hope, when the achievements which deservedly rank as creative are only to be found as unique, apparently spontaneous events scattered over a vast range of human activities in different eras of history? Factor-analysts are not deterred, for they are satisfied with some evidence of internal consistency among the tests they propose for measuring an otherwise unidentifiable primary trait. Yet the articles which describe the personal experiences of people whose work has been unmistakably creative stand in curious isolation from the rest of the book. Mozart confronts us with an almost incredible experience: 'Provided I am not disturbed, my subject enlarges itself, becomes methodized and defined, and the whole, though it be long, stands almost complete and finished in my mind, so that I can survey it, like a fine picture or a beautiful statue, at a glance. Nor do I hear in my imagination the parts *successively*, but I hear them, as it were, all at once. What a delight this is I cannot tell! All this inventing, this producing, takes place in a pleasing lively dream. Still the actual hearing of the *tout ensemble* is after all the best.'

Perhaps it would be more profitable to enquire what kind of social environment is suitable for

allowing creative individuals to obtain the support and encouragement they need to get on with the work they have it in them to do. And why do other social climates stifle creativity? The only two papers which touch on such questions are those from Torrance and from Haddon and Lytton, and they are only concerned with school environment. Why was there such a flowering of human creativity in the Greek city states, in Italy during the Renaissance, in Vienna at the end of the eighteenth century and in Paris at the end of the nineteenth? Why did Greek plays give place to Roman circuses? Perhaps such social problems are no easier to answer than the psychological ones, but anyhow, why should not the sociologists have a field day too?

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REFERENCE

- GUILFORD, J. P. (1950). 'Creativity.' *Amer. Psychol.*, 5, 444-54.

PSYCHOLOGY

Principles of Behaviour Modification. By ALBERT BANDURA. London: Holt, Rinehart and Winston. 1969. Pp. 677. Price £4.70.

We occasionally encounter a book of outstanding merit: Bandura's monograph on the principles of behaviour modification is one of the few. It integrates at one and the same time a reorientation in views about psychological disorder, research on the determinants of behaviour change, and a critical appreciation of research methodology.

The orientation adopted by the author is one which is becoming more prevalent among psychologists. It asserts that '... behaviour that is harmful to the individual or departs widely from accepted social and ethical norms is viewed not as symptomatic of some kind of disease but as a way that the individual has learned to cope with environmental and self-imposed demands. Treatment then becomes mainly a problem in social learning rather than one in the medical domain'. The approach of the social learning theorist recognizes that behaviours, both deviant and non-deviant, are developed and retained on the basis of three differentiable (but not necessarily independent) 'regulatory systems'. Firstly, external stimuli can control autonomic and instrumental behaviour. Secondly, it is recognized that behaviour can be controlled by its consequences. Finally, 'in many respects the most influential', there is the 'regulatory mechanism (that) operates through central mediational processes'. This last-mentioned 'system' is concerned with the role of 'cognitive' factors in behaviour change and is one which is currently receiving increasing attention from experi-

mental psychologists studying abnormal behaviour. Its incorporation within the social learning framework is likely to make the orientation more palatable to psychologists and psychiatrists who find the classical behaviourist and operant-conditioning views narrow and oversimplified. While the influence of genetic, biochemical and neurophysiological factors is given only minimal consideration, their importance is explicitly recognized, particularly their potential role in determining the types of behaviour that can be developed and the rate of behaviour acquisition. It is to be hoped that in future editions of this book some attempt will be made to incorporate the research on these factors with the literature on behaviour modification.

The chapters here deal mainly with modification principles and procedures which are derived from the broad research areas traditionally demarcated within experimental psychology. Extinction, positive control, aversive counterconditioning, modelling and vicarious processes, among others, each have separate chapters devoted to them. Within each chapter there is a concise exposition of the experimental background to the principles, followed by a description and critical evaluation of a variety of applications of the derived modification techniques. Each chapter concludes with an excellent summary. Most of the chapters could easily stand as independent reviews of the literature, not only because of their scope but particularly because of the assessment of the methodological adequacy of the quoted studies. Bandura's approach is critical but constructive. As he points out for example, some 'devoted partisans of the operant approach' tend to 'rely exclusively upon reinforcement practices to develop response patterns that can be readily produced by the use of simple instructions, behavioral demonstrations, or appropriate verbal modelling cues' (p. 240).

I have little doubt that this is the most important book on behaviour modification published to date and I doubt further that it will be superseded by anything other than revised and updated versions of itself.

M. BERGER.

Experimental Psychology: its Scope and Method. Edited by PAUL FRAISSE and JEAN PIAGET. IV. Learning and Memory by JEAN-FRANÇOIS LE NY, GÉRARD DE MONTPELLIER, GENEVIÈVE OLÉRON and CÉSAR FLORÈS. Translated from the French by Louise Elkington. Routledge and Kegan Paul, London. 1970. Pp. 376. Price £4.00.

This is the fourth volume of a nine-volume Handbook of Experimental Psychology, and comprises