

CREATIVITY AND EDUCATION

Hugh Lytton

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THE STUDENTS LIBRARY OF EDUCATION has been designed to meet the needs of students of Education at Colleges of Education and at University Institutes and Departments. It will also be valuable for practising teachers and educationists. The series takes full account of the latest developments in teacher-training and of new methods and approaches in education. Separate volumes will provide authoritative and up-to-date accounts of the topics within the major fields of sociology, philosophy and history of education, educational psychology, and method. Care has been taken that specialist topics are treated lucidly and usefully for the non-specialist reader. Altogether, the Students Library of Education will provide a comprehensive introduction and guide to anyone concerned with the study of education, and with educational theory and practice.

J. W. TIBBLE

The concept of creativity has now been a popular one in educational thought for about a decade. Originally work in this field was concerned mainly with identifying and attempting to measure 'creative abilities' and this gave a fresh impetus to a somewhat flagging mental test industry. But the work that has been done has a significance far beyond precarious attempts to identify, in early life, individuals who may make significant contributions to the sum of human achievements. It has served to focus attention on those powers of imagination and reason which all of us possess, in some measure, the cultivation of which is a perennial educational task.

The field of 'creativity' is a difficult and complex one, in which there has been much loose thinking and a good deal of trivial research. Mr Lytton has provided an excellent and clear guide for the beginning student, which allows him

immediately to come to grips with the important aspects. Creativity is also an area in which value judgments have constantly to be made. The clarity and fairness with which the author has treated these complex issues add greatly to the value of the book for students.

BEN MORRIS

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Acknowledgments

My first work in the area of creativity dates back to an abandoned Ph.D. thesis of many years ago. At the time Dr P. E. Vernon's critical interest in the subject spurred on mine and over the years since then I have received a great deal of stimulation and counsel from him for which I am very grateful. I wish to thank the Charles E. Merrill Publishing Company for permission to reprint a lesson segment from the article by R. M. Olton and R. S. Crutchfield in Covington *et al.*, *The Productive Thinking Program*. I should like to acknowledge also the contribution made by my wife through her critical comments on the draft of this book from which it has greatly benefited.

The limits of the possible constantly shift ... It is from the champions of the impossible rather than the slaves of the possible that evolution draws its creative force.

Barbara Wootton : *In a World I Never Made*

1

The creative process

'The Creator' *par excellence* is God and whenever we create some new thing we feel we are God-like and achieving immortality. The Greeks were aware of the awesomeness, the double-edged nature of creating, for Prometheus who discovered fire was venerated as a benefactor of mankind, raised to the Pantheon, but also, having aroused the envy of the Gods, punished cruelly for his pains. In its most basic sense (to 'pro-create') creating denotes sexuality—of beast as well as man—and hence is charged with all the emotion, the complexes and inhibitions, and the mysteries surrounding our deepest biological urges. Small wonder then that 'creativity' (a word of American coinage, not found in the *Oxford English Dictionary*) is a word of power, prestige and prodigiousness that we all wish to appropriate. Creativeness confers power and distinction. To quote Bruner (1962):

It is implied, I think, that the act of one creating is the act of a whole man, that it is this rather than the product that makes it good and worthy. So whoever seeks to proclaim his wholeness turns to the new slogan. There is creative advertising, creative engineering, creative problem-solving—all lively entries in the struggle for dignity in our time.

THE CREATIVE PROCESS

It seems best to start with a working definition of what we mean by a 'creative act'. Whilst later I shall examine in greater detail the nature and conditions of the creative act we can take as our starting point a simple, but all-embracing characteristic of the creative process that allows us to place it roughly in our universe, and no wording, I think, defines its most pervasive characteristic better than Bruner's 'effective surprise':

What is curious about effective surprise is that it need not be rare or infrequent or bizarre and is often none of these things. Effective surprises . . . seem rather to have the quality of obviousness to them when they occur, producing a shock of recognition, following which there is no longer astonishment. (Bruner, 1962)

There are two implications arising from this characterization of the creative act: firstly, creative quality can reside in any kind of human activity. Men can be creative not only in painting, writing poetry or discovering scientific theories, but also in cooking, carpentering, playing football or making love. Secondly, it is not only the genius who produces creative acts, but this quality can be present in many minor acts at many different levels of ability or intelligence. We should here recognize a distinction between an objectively and a subjectively creative act. The product of *objective* creativity must meet certain criteria so that 'effective surprise' is felt by the beholder. The first and most important is perhaps appropriateness: the product must make sense in the light of the demands of the situation and the specifications of the producer. It should call forth satisfaction, because it fits its context—it is not only right, but *just* right. (This is another way of expressing 'effective surprise'.) The second criterion is novelty: the product should be unusual as judged by appropriate norms, or should lead to an uncommon way of experiencing the world. Thirdly—and this is the highest standard—we may

judge a creative product by its power to transform the traditional constraints of reality and to yield a radically new perspective. Some original thoughts bring about a radical shift in our approach to a whole field of knowledge. (Cf. Jackson and Messick, 1968, for a detailed discussion of these points.)

Subjective creativity is judged by different canons: it can occur when a person combines things in ways that are individual to him, when he does not simply imitate, but regroups given stimuli or data by means of his own thoughts or actions, irrespective of the effect his creation has on others. We cannot, for instance, deny the epithet 'creative' to the five year-old who with all his might and enthusiasm has given us an image of the world as *he* sees it, littered with square cows and peopled with round-bellied, neckless mums and dads. When he has, out of his own powers, made this vision of the world his own he has been—subjectively—creative, even if thousands of others have acted similarly.

A well-known story tells how a class was given the problem of adding the series: $1+2+3+4+5+6+7+8+9+10$. Everybody was working away, laboriously adding the ten separate figures, but one six-year-old boy, after only a few seconds' thought, announced the answer, 55, to the astonished teacher. He had discovered that there was a logical structure to the series, which could be looked on as consisting of five pairs of numbers, 1 and 10, 2 and 9 etc., each adding up to 11. This boy, who was to be the mathematician Gauss, had by himself discovered a property of a series and thus shown considerable creativeness, as far as his subjective mental processes were concerned, even though the rule was known to most adults before him.

If we call 'effective surprise' the hallmark of the creative act, we are in effect setting up a psychological state as the criterion of creativity. And indeed creative acts, or at least the finishing of them, are always marked by states of