

John K. McCreary

THE CHALLENGE OF UNIQUENESS

MAN ENJOYS CHEMICAL UNION with the natural world and biological union with the evolution of life. Despite these identifications, he is unique as a species, the human species (order Primates, class Mammalia). And—identical twins excepted—each of the three billion members of his total population is in every case unique. Individuals in all species, of course, and not man alone, share in the quality of uniqueness. But it is only man who knows this.

In our century, many scientific disciplines, especially in medical research, have converged on the study of man. Applications of the knowledge obtained have increased his life expectancy by twenty years over that of two generations ago. In the course of such study and services, much has been learned about the potentials of human organisms. This is true not merely in terms of increased span of existence (which may well advance another twenty years before the century's end) but with respect to a variety of functions.

One may speak of the achievement potential of organisms, raising questions concerning the improvement of abilities already possessed and the discovery of aptitudes and talents now dormant. The beginnings of the space age are suggestive of the dynamic involvements of man in a rapidly expanding and more complex milieu. The development of scientific knowledge of human organisms is still in its childhood. Yet on such knowledge depends man's performance in the demands that lie ahead.

The biochemist is concerned with the chemistry of living things; in his work, physiological processes are considered from the point of view of chemistry. It has long been known that there is a general chemistry and physiology of man. Recent important studies are revealing, however, that each individual is unique and that our blanket concept of normality covers a multitude of individual differences. These are found in anatomic structure, in the manifold aspects and reactions of body chemistry, and in overall physiological operations. An eminent biochemist, Dr. Roger J. Williams, has devoted a book to the concept of major individual differences considered at the

biochemical level.¹ He supplies materials from research which, he believes, indicate differences having much greater importance than had previously been accorded them. It is his conviction that they should be considered seriously in most areas of our life.

The early physiological psychologist, John Watson, used to think of man as being "terribly at the mercy of his glands", but he made only the most usual distinctions among individuals. In fact, he tended to discount individual differences. Williams, on the contrary, argues that each man has a unique endocrine pattern which requires particularized adaptation on the part of the individual. He estimates that the differences in comparable glandular activities among normal people are as much as five- to ten-fold. Moreover, the sizes of the various organs of the body, the way in which the heart may be structured, the action of blood circulation, and the functioning of the nervous system, all vary considerably from one individual to another.² The same is true of many other aspects of the body.

It follows that the psychological and social behaviour of the individual may be expected to be influenced by such differences. Hence the concept of an "average" individual is of little or no scientific value. There are no average individuals—only real ones, with their differences. Anything that is marked by its own unrepeatable and inherent mosaic can hardly be regarded as part of a system known as "average".³ To speak of "the human body", therefore, is to speak of a hypothetical construct. At best it is a shorthand way of talking about a vast collectivity of organisms which are only roughly similar. General statements about man's body are therefore usually without significantly particular applicability.⁴ Considered in this light, the idea of the average is scientifically meaningless and clinically useless.

If Williams' ideas reflect the truth about reality, and if society decides to take heed of them, some practical consequences will follow. He suggests a number of these. For example, the kinds of judgments made by young people concerning marriage partners might be altered radically. Concepts of typicality in a man or a woman might be displaced by something more factual.⁵ Modern marriage counsellors would perhaps concur in such an approach. It seems, in fact, that the deepest human wisdom has always recognized the point made: "William is a different type from Henry; he will make a better match for Dorothy". But the biochemical scientist is thinking at a more profound level than was possible in the past.

Folk wisdom has also recognized that children are "all different". The biochemical depths of such differences, however, have not been plumbed, and

only a beginning has been made in this century. The more we know of the individual, from the day of his birth, and even before, the more we shall be able to understand and assist his development. Society will also benefit. If we recognize innate individuality, it will preclude any attempt to fit all individuals into the same mould.⁵ Our procrustean beds have produced conformity to measures and models as ordered by society, often with no small pain, or even illness, to the individual, and in the end to society itself. (A pioneer in child rearing who has been experimenting for forty years in the concrete recognition of individuality is A. S. Neill of England.⁵ Williams and Neill, from different approaches, would probably find common ground.)

One area which calls out for recognition of biochemical and physiological variations in individuals is that of psychiatry. It is customary for most psycho-analytic procedure to find the causes of an individual's later maladjustments in life in the emotional difficulties of his infancy and childhood. Whatever degree of validity may attach to such a practice, it is a gross oversight and negligence to disregard the facts of anatomical and biochemical difference in this area. From the beginning of life, many differences must be taken into account in attempting to understand and interpret subsequent behaviour. This is true, for example, in regard to the human brain, on which individual development so much depends. Not only do brains differ somewhat in size; they differ in cellular structure. It has been judged that such differences among human individuals are as great as those among different species of animals. All attempts, therefore, to represent "the" human brain fail to fit the facts for any given individual.⁴ And the brain can never be disregarded in studying the disorders of the mind. It requires recognition in the diagnosis and treatment of these. At least part of the field of psychiatry must be a quest for understanding the different ways of working in different individual brains. This amounts to the discovery of the causes of why people are innately influenced to think in certain ways.

In the same area of psychiatric interest, Williams points out that the stimulus-response system of the individual is different from any other. This, of course, includes perceptions by the senses of the peripheral nervous system and reactions mediated by the functions of the central nervous system. And it takes in the whole range of feeling and emotion as well, involving the autonomic and related endocrine functions. Thus there is not and can not be a standardized procedure for the analysis of psychiatric difficulties which does not afford the fullest recognition of such differences. The introduction of this concept more fully into psychiatric theory and practice would, in all

likelihood, prove most useful.⁴ (It seems that research in psychiatry demands greater integration of biochemical and psychodynamic approaches.) Certainly one of the great hopes for the eventual remission or substantial relief of mental illness lies in the direction here indicated. No adequate understanding of the operations of the human mind, normal or abnormal, is possible without a profound knowledge of the factors involved in individual inheritance. Psychological science depends greatly on this, yet it is frequently unmentioned in books which purport to deal with problems of human adjustment and even severe mental disturbance. There are highly individual mental patterns whose origin lies in inherited biochemical tendencies.⁶ Such uniqueness constitutes a challenge; it is the business of a scientific psychiatry to discover it and, in cases of illness, to fashion treatment in accordance with it.

It is therefore not sufficient to seek, and to suppose oneself to find, all the answers to a man's mental and emotional troubles in his early environment, to which the individual supposedly succumbed in various unfortunate ways. While we cannot properly belittle the factors that influence environment, we need to understand their potentials for affecting human beings variously in the light of knowledge of the inherited make-up of the individual. Only in this way can the impacts of environments on differing individuals be understood, and only thus can the environments be manipulated effectively, that is, in ways that may bring about protective and therapeutic results.⁶ Consequently, adequate psychiatry and psychological science will include knowledge of the biochemical basis of behaviour. And other related sciences, such as genetics, will make their contributions. There is undoubtedly a genetic basis for the fact that individuals reveal differing degrees of resistance and susceptibility to various forms of mental illness. Such specific inclinations suggest the presence in certain individuals of biochemical and organic biases of significant magnitudes. These persons might possess propensities toward such illnesses, and this could mean "that genetically-induced metabolic tendencies play an important part in determining who will and who will not be afflicted with mental disease—as well as the type of impairment [which, however] does not deny the importance of environmental factors."⁷ But far from viewing hereditary predisposition to mental illness as requiring its inevitability, Williams believes that "There is real and substantial hope that recognizing the roots of mental disease—in those who are vulnerable—will prepare us to prevent its occurrence."⁷

If we turn to the area of man's achievements, which express his outstanding abilities as a rational and intellectual being, the same concepts apply

as in the foregoing discussion. (We need to understand better the causes and means of these human productions.) Consider the concept of intelligence. It has been subjected to considerable analysis by psychologists. Surely the home of intelligence is the brain, despite the related and undoubted importance of the environment. But if brains differ, modes of intelligence may also be expected to differ, notwithstanding any levelling or equalizing effect of the environment. It can be argued cogently that unique thought structures will be reflected by differing cortical complexities. This would be as true of cerebral activities as the fact that organisms differ in glandular and metabolic functions and in the modes of behaviour through which these are reflected. The upshot of this is that we are required to learn more of the relations of brain functions to particular types of mental performance. Some efforts toward collaboration between neurology and psychology have taken place.⁸ Intensive and continuing efforts are desirable if we are to understand the differing capacities of individuals for various forms of achievement.

One aspect of uniqueness in the area of intelligence is related to the concept of creativeness. The problem of the nature of the process involved in creation has recently received considerable attention. It would probably be true to say that nothing very clear or of tremendous import has emerged from the studies that have been conducted. One wonders whether the idea of creativeness is useful as a scientific element of analysis or even category of personality. To define what is meant by the idea of creativeness (as for example in the usual definition, "the bringing forth of that which is new") and then to show the specific causal processes leading to its concrete fulfilment, would seem to be the minimal and basic requisites. To define the concept, however, is easier than to explicate the dynamic functions which operate in its realization. Inevitably what we call creativeness is thus labelled in a shorthand way, the word simply pointing to the rich variety of valued novelty. But the pointing does not explain. Closer work between scientific disciplines is needed. In the present context the interest lies in the direction of the biochemistry of the brain. The approach that Williams has made to this area is augmented by a biological orientation.⁹ We seem, however, to have made but a slight beginning in comprehending the nature of creativeness as it essentially occurs. But it is encouraging to note the ongoing interest of scholars,¹⁰ and the efforts of researchers in this field.¹¹ In such work as Williams has undertaken, there is continued need of concrete demonstration, following fruitful research and useful theorizing. It would be expected, for example, that many scientific thinkers would question his seeking an appar-

ently complete emancipation from the nomothetic or generalizing norms of science. To move totally in the direction of the ideographic or utterly particularizing emphasis might seem to them extreme. However, his points of objection to the nomological net are well made, particularly those concerning the non-representative character of the concept of the "average".

The general analysis by Williams does appear to support his demand for a much deeper awareness of innate uniqueness. Perhaps the work in which he has so vigorously engaged will fulfil the promise it seems to hold. In a sense, Williams' work appears to amount almost to a mission. At any rate, he and his colleagues speak of a new branch of medical science, bearing the title of "Propetology." This term is from the Greek word *propet* and means "leaning toward."¹² Accordingly, our practice in all areas is to be brought into harmony with the natural tropism of the organism.

Very closely related to the work of Williams is that of the distinguished endocrinologist, Dr. Hans Selye, who has extensively discussed the role of hormonal factors in physiological functioning and in behaviour. This has been done within the framework of the concept of stress.¹³ While Selye throughout his work does not appear to emphasize the point made by Williams concerning biochemical individuality, rather implying perhaps that there is a general chemistry and physiology of man, there is nothing in that work which places him in opposition to Williams. In fact a point could be made for a close agreement between the two scientists — that is, Selye's frequent suggestion, and even urging, that the individual should know his stress level and act in keeping with his own organic best interests. As a kind of wisdom following from his researches as an endocrinologist, Selye suggests that man should always strive to attain the highest goals possible for himself and yet never expend energy which will not bring adequate return, such as the organism's own health.

Central to Selye's contribution is his pointing to and attempting to account for the changes involved when something upsets the body's homeostatic balance or equilibrium. The way in which the organism responds to stress may be noted from a sequence of phenomena, or what may be called certain "symptoms." At the level of gross observation these are: alarm reaction, involving efforts of the organism to marshal its forces to meet the "something" which threatens; a resistance reaction, which amounts to actual utilization of the means of defence at the organism's command and which, if successful, will end the stress situation; exhaustion, which may occur if the

defences are unsuccessful. Selye calls the whole process the "general adaptation syndrome", which he abbreviates as "G.A.S." It amounts to the general mode of response to stress as made by the organism. It has been set forth by its sponsor as a cogent theory possessing diagnostic merit in enabling science to properly determine the unique situation of a particular organism. (The idea was conceived by Selye during his earlier years, as a senior medical student.)

Selye's concept opposes the idea that organic adaptation is wholly a matter of relatively unrelated responses. He takes the stress situation to illustrate the characteristics of the general response which the organism makes. Corresponding to each of the three possible stages, as above mentioned, are the endocrine processes which occur, with their physiological and behavioural effects. We shall not enter fully into the necessarily technical detail of these processes. But it may be noted that among the organism's defensive forces to overcome the "stressor," whatever it may happen to be, are certain glandular secretions. There are stimulations of secretions from the pituitary or "master" gland (ACTH) and from the adrenal glands (cortisone). As to the action of the adrenal cortex during stress, Selye describes how its particular function illustrates the endocrinological sequences of the G.A.S.: "The adrenal cortex first discharges all its microscopic fat granules which contain the cortical hormones (alarm reaction), then it becomes laden with an unusually large number of fat-droplets (stage of resistance) and finally it loses them again (stage of exhaustion). As far as we can see, the same triphasic course is followed by most, if not all, of the manifestations of the G.A.S."¹³

It is appropriate at this point to take into account the lifelong recognition and implementation of the point of view we have been discussing which was achieved, at a different level of analysis, by the eminent psychologist G. W. Allport.

Having largely devoted his academic life to the study of personality, stressing its unique character, Allport would undoubtedly agree with the emphasis on individuality. This is an understatement since, for more than thirty years, Allport himself has been insisting on this point of view. His psychology of personality has been and remains committed to the concept of the unique organism. Personality is nothing other than the expression of the psychophysical traits within the organism, meshed as they are in a completely individual dynamic organization. The system or pattern is unrepeatably

unique. In consequence, there is a characteristic adjustment by the individual to his environment.¹⁴

Clinical psychologists are in fact considerably influenced by the Allportian position. They have long recognized the relative futility of cross-sectional studies as applied to the individual. Of course, neither Allport nor they would wholly reject such studies and restrict themselves to longitudinal investigations related to one individual or to small groups. For clinical purposes, however, the latter type of research is often more helpful for the illumination and analysis of particular cases. What is known about correlations between age levels and performance abilities, through standard intelligence tests, is of course found to be of assistance to the clinician. Such measures are misconstrued and futile if accepted as telling more than they in fact do about the individual. They help to place him in relation to others in respect to certain traits, that is, types of performance. Similarly, at least some clinicians and child psychologists are able to derive help from the norms developed by such researchers as Gesell and his associates.¹⁵ These they find useful when they seek to understand and possibly to help a child. They would be remarkably naïve of course to suppose that the norm for a given age level, in respect to a trait, might be expected completely to fit the child before them. Concerning a particular characteristic the child might behave in ways common to most youngsters of his age, but the mode of integration of the trait, within the total trait structure of his personality would be unique. Something more than simply knowing the norm for the trait would be required in order to comprehend its significance in the individual. (The same would apply to the many ramifications of the social manifestation of the trait through him.) It cannot be doubted, however, that such a culturally modal indicant of behaviour can be suggestive in clinical work.

Allport has sometimes discussed the unique personality of the individual in terms of what he calls the *proprium*, or *proprie functions*.¹⁶ By these expressions he means to speak of the integral and effective activities of human organisms. He is talking about an organism's way of operating and of guiding its own ongoing activities. He thinks that the organism is ordinarily uniquely alert to its own individual activities. Allport believes that there are at least eight of these: bodily sense, self-identity, self-esteem, self-extension, rational thinking, self-image, *proprie striving*, and the function of knowing.¹⁶ These activities progressively emerge in the psychological growth of the individual through time, moving increasingly from bodily concerns through social adjustments to larger interests and values of the person. The individual thus

becomes relatively free and is able, within the social system, to contribute the uniqueness of his own personality.

Individual uniqueness provides a challenge, not only to theoretical and applied science and to society, but also to education. A fine line of pedagogical tradition has existed throughout history, emerging in relatively modern times in Pestalozzi, Froebel, and Montessori, and more recently in A. N. Whitehead and John Dewey. The concern has been with the importance of recognizing individual differences and the uniqueness of each individual's educational experience. The student is to be helped to live and function in the world, solving his problems realistically in terms of his own potentialities. His social participation and contribution would be on the same basis. Consequently, if **this is to occur**, educational policy will invoke an experimental attitude in place of indoctrination. Subject matter will be taken seriously, but utilized as a means (not merely as an end) in human development. Adequate educational experience is seen as that which fosters that kind of learning which best develops each student's powers; there is the recognition, in short, of individuality. This means that not all young people can be successfully educated by means of the same courses or instructors. Education must fit the right student to the right subject matter with the right teacher. Concerning the first two of these elements, a former comment may be quoted: "The right course, or subject, in the case of any given student, is the one which the individual is interested in and about which he wants to learn. Whether this interest is a genuine urge as opposed to a mere superficial itch is determined by various means—intelligence, personality, and aptitude tests; school record thus far, as indicated by grades and reports; statements of parents or guardians; present expressions and tendencies of the student."¹⁷ On the last element, that involving the teacher, it was also remarked: "The right teacher is the one with whom the student is able to achieve rapport centered in the subject-matter."¹⁷

The tendency of this (relatively unpractised) type of educational policy has been to seek to enable young people to discover their own uniquenesses at the deepest levels of analysis possible, and then to test the validity of their personal drives by exposure to opportunities and challenges that, hypothetically at least, might fulfil them. The educational curriculum would therefore require a minimal number of basic general requirements and would focus on finding a programme of courses and experiences which would be an intelligent one for a given student. This procedure calls for administrators and teachers who

are flexible and have a fundamental grasp of the inter-relations of educational disciplines. It is to be hoped that, as a result, the individual's education will proceed on a basis of deep and accurate knowledge of the individual himself. Every known aspect of his personality will be taken into account in the educative process. Maturity for him, in the educational and social sense, would reduce the bi-polarities that often exist, such as intellectual *and* emotional, theoretical *and* practical, academic *and* social. Instead, these would have become unified; the individual's educational experience would make him comfortable in the awareness that his powers were integrated and focussed.

Thus the unique individual would become functionally effective in the environment, having through his education given birth to himself, in the sense of derivation from a past, involving particular potentialities, and tending towards a future. In this way, education is seen as part of the process of self-realization. It entails unification of the learning process with the continuity of the individual's characteristic life pattern. A name for this experience, in the terminology of Whitehead, is "conrescence." An earlier comment may clarify Whitehead's metaphysical approach to uniqueness at the level of feeling:

Whitehead's analysis of conrescence shows that we have an initial stage of many feelings, then complex feelings integrating earlier simpler ones, and finally "satisfaction"—one complex unity of feeling. In this genetic analysis of satisfaction, the transition effecting conrescence involves five factors: (a) the "subject" which feels; (b) the initial data, which are to be felt; (c) elimination of some possibilities through negative prehensions; (d) the objective datum which is felt; (e) the subjective form, viz. *how* the particular individual or subject feels that objective datum.¹⁸

There is thus a process from a multiplicity of feelings to a "nexus," as Whitehead calls it, meaning thereby a unity which is new. The diverse potentialities in the conrescent process have grown into a concrete whole. In Whitehead's own opinion it is the business of education to perceive the abstract possibilities in the unique individual and aid in the process of their concrete realization.¹⁹

It is to be fully admitted, in conclusion, that the interest required for the development of uniqueness amounts to a severe challenge in light of current social values and procedures. It seems necessary to make a major shift (perhaps best symbolized as in the nature of a geological fault) in man's major concerns. Whether or how this may occur calls for our profoundest insight and action.

NOTES

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