
For Debate . . .

Psychiatric research in medical perspective

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The development of postwar medicine has witnessed an increasing awareness of the importance of mental disorders. In most developed countries psychiatry is no longer regarded as the exclusive concern of mental hospital doctors or the scrag-end of neurological practice. Several inquiries have established mental illness as a major public health problem, with its various forms of morbidity encountered in general medical practice, in hospital, in primary care, and in the community at large. Yet while the identification and recognition of these disorders have inevitably stimulated an interest in the promotion of research as a means of understanding causation and implementing rational treatment, it is generally conceded that advances must be accounted meagre when measured by the standards achieved in most other branches of medical science. The leading psychiatrist of his generation summed it up as follows: "We are not living through a period that marks a new epoch; there is no Galileo or Darwin, no Harvey or Newton in psychiatry and psychology, nor to put our aspirations on a more realistic plane, have there been discoveries during the last 20 years comparable to those that have signalled the growth of therapeutics and surgery in other fields."¹

While a few psychiatrists have shown themselves aware of the lack of progress,²⁻⁴ many more have been content to justify the relative stasis by reference to the intrinsic difficulty of the problems or to endorse the widely held opinion that "money for research is the problem."⁵ Some have even attempted to view research as an activity calling for psychological interpretation. Only 20 years ago, for example, at a conference devoted to "The dynamics of psychiatric drug therapy," the research investigator's need was said to depend less on professional skills and outlook than on an "inner tranquillity. . .¹ Research proceeds at a cadence in harmony with the inner self."⁶

Clinical science of psychiatry

Meanwhile, a new factor has come to claim consideration. The flood of new knowledge from the basic sciences, much of it accruing from the impact of the newer psychotropic drugs, has begun to stimulate the interest of biomedical research workers outside the traditional disciplines concerned with the challenge of mental illness. There are now numerous well-trained biological scientists for whom "inner tranquillity" is less important than the application of a host of specialised physico-chemical techniques already available.⁷ Many of them see their task as providing the means to create a clinical science of psychiatry, a view that has been underwritten by an MRC policy report on biochemical research in psychiatry emphasising the importance of bridging the gap between basic neurobiology and clinical investigation.⁸

On the whole, these workers seem to be uncertain about what may be expected from their psychiatric bed-fellows: "I would dearly love to be able to see into the future of psychiatry," comments a senior clinical pharmacologist, going on to ask: "How are psychiatrists going to cope with the increasing knowledge knitting together the relationships between experience, biological brain function and subsequent mental function and the introduction of psychotropic drugs of greater selectivity requiring a good deal of background knowledge for their proper use?"⁹ His question has been answered emphatically by a distinguished professor of medicine: "When recent Nobel prizes in medicine have been awarded for, on the one hand, a combination of physiology, biochemistry and endocrinology of the brain, and on the other, for animal behavioural studies, it is at present difficult to imagine a similar achievement in the field of psychiatry with the lead being taken by anyone with a psychiatric training."¹⁰

Even if this judgment reflects a touch of biomedical complacency it rightly draws attention to the rich dividends that have accrued in other branches of medicine by associating experimental inquiry with clinical theory and practice. If, so far, the results have been disappointing in psychiatry the reasons

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would seem to be related to the three general lessons that Himsforth has drawn from an examination of more successful attempts elsewhere: "The first," he says, "is that a productive marriage cannot be effected between two subjects until both have passed a certain stage of maturity. The second is that the characteristics of the offspring of any such marriage are determined not by the more but by the less 'basic' subject. The third is that a new subject extends the area of natural experience in which the more 'basic' can increase its development."¹¹ These points are crucial since, if the prospects of a fruitful union are limited by the "less basic" subject, psychiatrists must be prepared to acknowledge the implications of Medawar's verdict on their subject; "The position of psychological medicine today is in some ways analogous to that of physical or conventional medicine in the middle of the nineteenth century."¹²

Outmoded diagnostic concepts

A dispassionate glance at the current psychiatric scene illustrates the force of this assessment. Outmoded diagnostic concepts like "neurosis" and "psychosis" still hold sway. The natural history of most common mental disorders has still to be established. Virtually all treatment is empirical. To Medawar¹² much of this is a consequence of the fact that, "we are still so very ignorant of the mind." It might be contended that as a biologist he is here concerned more with the brain and its mechanisms than with the mind. Indeed, the mind-brain issue has been resurrected as a matter for more than philosophical speculation, having come to assume increasing importance in the interpretation of some of the fastest-developing areas of current research into higher cerebral functions.¹² As a consequence, it becomes increasingly important for psychiatrists to clarify their conceptual standpoint when evaluating empirical phenomena. For the most part they favour either a crudely mechanistic psychology or, all too often, espouse the widely held view that "psychoanalysis is the only rational theory of human behaviour available to it which has relevance to its work."¹⁴ If the former is patently inadequate the latter conceals a still more fundamental weakness which Medawar has exposed: "psychology . . . has not reached the stage of removing the major impediments to its own progress. The case against a psychological system of treatment such as psychoanalysis does not really rest on the fact that it is inefficacious—for that must be true of a great many forms of medical treatment—but on the fact that belief in psychoanalysis is an impediment to the discovery of the true causes of mental illness."¹⁵

Golden eggs

Against this background there is much to commend an operational approach to psychiatric research, an approach favoured by Vickers, who has rightly emphasised that the central figures in this, as in any other, sphere of research are the research workers whom he compares to "geese who occasionally lay golden eggs."¹⁶ If, he argues, successful research is to be judged by the number and quality of these eggs then attention must be paid to all three ways in which this process can be encouraged: "One way is to cosset any goose which has actually laid a golden egg, in the hope that it will lay some more. A second way is to specify the golden eggs required, and offer rewards for them hoping thus to move still unidentified geese to egg-laying. The third way is to go on increasing the goose farm, in the hope that some statistical law will ensure that the number of golden eggs laid rises roughly in proportion to the number of birds capable of laying eggs at all."

Vickers calls the first of these methods the "personal" and the second the "institutional." The third might be termed the "agricultural" and its importance, I would suggest, resides less in its relation to some elusive "statistical law" than to what is now known about the sociology of knowledge, including the

fields of science and medicine. With regard to even so highly developed a discipline as molecular biology it is now apparent how many supposedly objective "facts" are dependent for their discovery and use on what Gunther Stent calls a "thought-collective . . . a community of persons who exchange ideas and interest intellectually. The thought-collective thus forms the carrier of the historical development of an intellectual discipline, of the state of knowledge and most importantly, of a particular style of thought."¹⁷ Thus in the study of mental disease the potential value of the work of Mendel and Thudicum—to take two prominent examples—had to wait for some decades before the scientific community was large and influential enough to invest it with significance. Commenting on the sceptical reception accorded to his early ideas on the cheese reaction, Blackwell makes the same point: "This unwillingness to accept a novel and apparently absurd observation is not new. In a small way, the idea that a common dietary substance might kill someone was as ridiculous as it once was to consider the earth round or that man was descended from a monkey. New ideas must fit what has been called 'current common sense' or 'the cultural mentality' of the time."¹⁸ It follows that the creation of an effective research ethos calls for the emergence of a large enough number of both investigators and other interested individuals who appreciate the need for relevant inquiry; such individuals include not only clinical psychiatrists but also members of the wider medical and research community, directors of private foundations, government agencies, and the informed public.

Provision of incentives

Without this "agricultural" background Vickers's "institutional" measures become less feasible, depending as they do on the provision of incentives through the creation of an institution, most characteristically a research institute, set up specifically to solve the scientific problems related to specified disease-targets. There are now several examples of this type of institution in psychiatry, and the issues confronting them are well exemplified by the largest and most widely publicised, the US National Institute of Mental Health (NIMH), in the instructive report by a specially constituted task force on its entire research programme in the year 1972.¹⁹ During that year the NIMH spent \$112m in support of research: 74% on research grants, 9% on research-related contracts, and 17% on its own intramural programme. A study of the content of the report shows two striking features. Firstly, the very wide range of topics covered by "work that spans the entire spectrum of the behavioural sciences, from concern with single-cell function to broad social theory: studies that address problems of the malfunctioning brain, the sick family, and the unstable society; research intended to shed light on the origins, diagnosis, and treatment of mental illness, and on the nature of social ills and their consequences." Secondly, the wide range of disciplines represented by the principal investigators in receipt of research funds. Almost half (45%) of the money went to psychologists, who received about two and a half times more support than the psychiatrists, who themselves were outstripped by other medical and social scientists. The inter-disciplinary nature of much psychiatric research also emerges from an examination of the projects outlined in the report, and this trend has been confirmed by co-citation studies of publications.²⁰

These factors impinge directly on the third, personal approach to research promotion, which lays emphasis on the recruitment, training, and development of the research worker. The motivation of these workers is very varied—"some seeking an immediate benefit, some wanting to create the basis from which a treatment or preventive programme could be launched, some wanting to understand disease and its natural history, some simply seeing interesting problems calling for solution."²¹ Over and above all these drives, however, as Himsforth has observed: "The most powerful incentive to potential research

workers is undoubtedly the desire to emulate. When a student sees his teachers actively pursuing research . . . then he will strive to develop any talent for the advancement of knowledge that he possesses."²² The problem now confronting the would-be psychiatric research worker is whom to emulate if the clinical psychiatrist continues to become a consumer rather than a producer of research. This trend is already apparent in the field of mental subnormality, and in the long run only by the incorporation of a research training as a central component of psychiatric education can a steady erosion of professional status be avoided.

Direction of research training

The direction of that research training, however, calls for careful specification. While a strong case may be made for equipping the trainee psychiatrist with a sound education in biomedical science it is pertinent to recall that medicine itself is undergoing a process of self-examination in which the dominance of biotechnology is being challenged by some of its most eminent representatives, including Macfarlane Burnet, who has gone so far as to state that, "the contribution of laboratory science to medicine has virtually come to an end."²³ The same argument accounts for the title of Dollery's Monograph, *The End of an Age of Optimism*,²⁴ where the author, despite an impeccably biomedical background, comments significantly that some of his medical colleagues regard him as "too tarnished by the ideas of social medicine and epidemiology to be taken quite seriously." The perspective of social medicine has been given forthright expression by McKeown,²⁵ who echoes the assessment of clinical science made by John Ryle 50 years ago.²⁶ At the core of Ryle's position was his defence of the clinician as an observer, a naturalist with an essentially holistic view of man in disease, for whom scrupulous clinical inquiry is as much a scientific procedure as any other measure of research. Here may be found a key to the dilemma of clinical research in psychiatry. A determined attack on the lacunae in knowledge relating to the clinical epidemiology of mental disorders²⁷ would help bridge the gap between clinical and basic research by casting clinicians in a more substantial role than that of medically qualified entrepreneurs or laboratory ancillaries. In so doing it would establish the reality of Kety's observation on the biochemical contribution to mental function: "The most practical way to attack a major medical problem or to bridge a great hiatus is not usually head on, but by strengthening and extending the foundations on both sides and narrowing the gap which lies between."²⁸ Only clinical psychiatrists can underpin the foundations of their own discipline.

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Would it be sensible to advise pregnant women to avoid handling a domestic cat?

Toxoplasmosis is transmitted by domestic cats. Pregnant women who have not yet already developed antibodies to this infection may transmit toxoplasmosis to the fetus if they become infected during the early part of the pregnancy. It would be wise therefore for a pregnant woman either to avoid handling domestic cats or to have a toxoplasmal antibody test carried out on her serum. If antibodies were present in significant titre there would be no great danger in handling even infected cats.

Can emotional deprivation on its own cause stunted growth in children and, if so, what is the mechanism?

Emotional deprivation alone, without the commonly associated malnutrition (probably stoutly denied by the parents), may cause what

is commonly termed "deprivation dwarfism"—growth retardation with retarded bone age.¹ Appreciable improvement in physical growth occurs when the child's emotional needs are satisfied in an improved environment. The mechanism is not fully understood, but it is thought that the emotional deprivation somehow acts through the hypothalamus and depresses the function of the pituitary. By laboratory methods hypopituitarism and defective growth hormone secretion have been shown, with recovery of normal pituitary function and growth hormone secretion, resulting in normal physical growth, when the emotional climate is corrected without the administration of growth hormone.^{2,3} A Caucasian girl failed to respond to the administration of growth hormone alone but resumed normal growth only when the emotional climate was corrected.⁴

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