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LESLIE COLIN COOK
President 1958-59

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Original Articles

THE PLACE OF PHYSICAL TREATMENTS IN PSYCHIATRY

THE PRESIDENTIAL ADDRESS DELIVERED AT THE ONE HUNDRED AND EIGHTEENTH ANNUAL MEETING HELD AT BEXLEY HOSPITAL, 1 JULY, 1958

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IT is customary and proper that each incoming President of our Association should express his appreciation of the great honour bestowed upon him, and, however eminent he might be, a glance at the names of his illustrious predecessors must have given him a salutary emotion of humility and even apprehension. With me this emotion is all the greater because I feel, in fact I know, that I am a very ordinary fellow compared with those who have preceded me. It is only necessary for me to look back upon the 14 post-war presidents, each of whom I have known well, to realize that I am following a series of men who were not only eminent in one or more branches of psychiatry, but were also great individual personalities. And I wonder if, for once, the *ad hoc* committee did not slip up in their choice. I must say, however, that my apprehensions of failing you would be much greater, were it not for the principal officers of our Association, who are more than capable of carrying a president even of the poorest calibre.

My immediate predecessor, Dr. Armstrong, told us last year that two of his presidential ancestors had been medical superintendents of Littlemore Hospital. I cannot say the same regarding Bexley Hospital (where there have been only three medical superintendents, including myself, during the hospital's 60 years existence), although both my predecessors would have graced the position. I can say, however, that at least five of our most distinguished past presidents, Sir Hubert Bond, Dr. John R. Lord, Dr. Abdy Collins, Dr. A. A. W.

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Petrie, and Dr. R. W. Armstrong, served at Bexley during some period of their careers, and I know that all of them had a strong affection for the hospital, where I have worked most happily for the last 23 years.

The first problem of a President-Elect is to decide upon the subject of his Address, and I think he might justifiably be charged with lack of respect for his audience if he did not choose the topic of which he had the greatest knowledge and experience. So, in spite of all temptations to use this opportunity, when I cannot be answered back, to air views on various psychiatric subjects which interest me greatly, but about which I know relatively little, I have chosen "The Place of Physical Treatments in Psychiatry".

This is not the occasion for a critical review of physical treatments; excellent general accounts are to be found in the text-books of Sargant and Slater (1954) and of Kalinowsky and Hoch (1952), while for the more recent developments in chemotherapy there is the review of Funderburk and his colleagues (1956) with its 299 references. What I hope to do is to contrast the mental hospital of 25 to 30 years ago with what it has now become, to discuss how much and in what ways physical treatments have contributed to the changes, and to speculate tentatively upon the future.

To the younger generation of psychiatrists the picture of an ordinary mental hospital before 1937 can only come from imagination, based on hearsay evidence. Even with the help of Dr. Walk I have been unable to find an adequate description of the wards of a British mental hospital between the Wars. Accounts of patients' activities and occupations, and of their gratifying behaviour at social and sporting functions are common, while such things as seclusion, strong clothing, padded rooms, etc., and the regular and thorough stripping and searching of patients are from time to time referred to as inevitable safeguards, but no picture of the ordinary scene in the wards accommodating the more disturbed patients has come to my knowledge. May I, therefore, describe very briefly the picture I saw in June, 1935 on assuming charge of the female side at Bexley Hospital, There were 18 wards in the main building and three outside villas, one of them for new admissions, one for convalescents, and one for the best behaved of the long-standing patients. In the main building two wards only had open doors, five nursed the sick and infirm, two accommodated well-behaved but mainly deluded and unoccupied patients, while in the remaining nine were patients in varying degrees of behaviour disorder. There were two wards of 65 to 70 patients each, composed mainly of chronic melancholics, who had been in the hospital for two to over 20 years. They had lost the sharp edge of their depression, but were anergic, almost inaccessible to stimulation, and preoccupied with delusions of unworthiness, hopelessness and bodily illness which gravely incapacitated them. Some spontaneously remitted, but there were always others to take their places. Even larger numbers of chronic schizophrenics, with far less prospect of remission, occupied the bulk of the other wards. The schizophrenics could be divided into three roughly equal groups: those whose psychosis was, so to speak, "burnt out" and who were occupied in more or less automatic routine work; those who had sunk into a state of apathy and emotional dilapidation; and those who manifested phases of excitement and violence, with noisy, turbulent and destructive behaviour. Even as recently as 1938, 186 patients (this includes the male side) were secluded for the huge total period of 10,580 hours, and no less than 1,430 pounds of paraldehyde and 273 pounds of chloral hydrate were used during the year. In the more refractory wards there was a sustained atmosphere of tension; struggles and minor casualties were numerous, and

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there was even an element of personal danger to visitors passing through the wards, especially at meal times.

Nevertheless, I do not want to give the impression that nursing or doctoring in a mental hospital in those days engendered feelings of hopelessness or indifference. Far from it. For various reasons, including a more static population both of patients and staff, a more intensive, integrated community complex existed. Mainly because most nurses and doctors lived in, and there were far fewer extraneous temptations within the geographical and financial orbit of residents, and not least due to the great tradition of the hospital being the centre of service and social life, the staff showed unbounded enthusiasm and affection for their charges, which seemed to increase in proportion to their individual troublesomeness and chronicity. Occupation, which had always been the main plank of therapeutics, was beginning to be more scientifically planned, recreation was systematically organized, and spurts of total-push therapy were already showing what could be done in the most unpromising environment. In many hospitals parole was freely given, as well as day and week-end leave in selected cases. At Bexley on Derby Day two male patients invariably were allowed to get up at dawn and make their own way to Epsom, some 30 miles away. Recently admitted patients remitted spontaneously to the extent that the discharge and death rate pretty evenly balanced the admission rate, but some 95 per cent. of the patients were chronic residents, of whom all but about 2 per cent. were likely to spend the rest of their days in hospital.

Since about 1938 a steady change has occurred, which is accelerating with the years. No doubt several factors share the credit for these changes. In my opinion the most important are (1) the Mental Treatment Act of 1930, (2) the development of out-patient clinics in association with mental hospitals and (3) physical treatments; all of which have made it easier to introduce modern psychiatric concepts.

Although the Mental Treatment Act, authorizing voluntary and temporary patients to be admitted to mental hospitals, came into force in 1930, the stigma enveloping not only the mental hospital patient, but also his whole family, was too deeply rooted to allow the Act to be extensively used for some years. In 1935—five years after the passing of the Bill—only 24 per cent. of admissions to the County and Borough mental hospitals of England and Wales were voluntary patients (Board of Control Report, 1936). Nevertheless, this Act loosened the first guy-rope which was to result in the launching of the mental hospital into the community.

The part played by out-patient clinics, run by mental hospital physicians, cannot be overestimated. Many provincial mental hospitals conducted out-patient clinics at general hospitals well before the War, but this service has increased tremendously since the inception of the National Health Service, especially in London County Council areas. By this means mental hospital doctors have been enabled to see patients at an early stage of their illness, to gain their confidence in a general hospital atmosphere, and, of even more importance, to establish good relationships with the family doctor, whose attitude to the mental hospitals was formerly little less derisive than that of the general public. Domiciliary visiting has been equally propitious in these respects.

The success of physical treatments soon led patients to come into mental hospitals for investigation, followed, if necessary, by a specific course of treatment or an operation, just as occurs in general hospitals; and this, too, tended to lessen the stigma of the mental hospital.

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It is true that the earlier years of this century were a period of regression in mental hospital practice, but even in the more enlightened days of the mid-nineteenth century—the heyday of "the moral treatment of the insane"—a liberal attitude towards patients, with all the splendid efforts of the pioneers of those days, could only be applied to a small proportion of patients and in the most progressive of hospitals. Dr. T. P. Rees, in his Presidential Address of 1956, quoted the words of Dr. Hitch of Gloucester, who said in 1841: "In one respect I pride myself in having gone far beyond all other asylum doctors, and that is to the extent to which I trust my patients", and also, ". . . at least a fifth part of my patients are under no restriction whatever". If Dr. Hitch had been able to utilize modern physical treatments, I have no doubt that some 90 per cent. of his patients would have been unrestricted, and who knows how much further he would have gone in trusting them?

It is wise and salutary to remind ourselves of what can be done without our modern therapeutic aids and to recall with humility the accomplishments of the humanitarian giants of the past, so long as we do not stifle progress by becoming exclusively *laudatores temporis acti.*

In general I do not think it an overstatement to say that physical treatments have provided our most effective means of rendering the bulk of chronic patients more accessible to social rehabilitation, or that the change in atmosphere of the chronic wards, which I have just described, must be attributed primarily to such procedures as convulsion therapy, leucotomy and, more recently, tranquillizing drugs.

At this point I would like to indicate what I consider the more important contributions of specific treatments. Before the mid-1930s the only physical treatment of more than palliative effect was, of course, the malarial or other pyrexial treatment of G.P.I. This was going strong even when I joined the mental health service in December, 1925, but there were then and for several years to come large numbers of paretics, whose disease had progressed too far to be influenced by the treatment and who exhibited in their final stages, marked by gangrenous trophic ulcers, total incontinence and profound dementia, a sordid and distressing picture, albeit a challenge to the good nurse. As Stoddart (1921), my first teacher in psychiatry, succinctly described the final condition of the general paralytic—"He is bedridden, wet, dirty and oblivious of his surroundings". I well remember the enthusiasm engendered in the nursing and medical staff by malarial treatment, which created a spirit of cheerful activity in wards oppressed by the hopelessness of such cases.

No major advance in physical treatments in psychiatry occurred until Sakel introduced insulin coma therapy in 1935. This, like malarial treatment, created an atmosphere of therapeutic optimism out of all proportion to the number of patients susceptible to its influence. For here again was something that could and did produce remissions in a condition hitherto therapeutically intractable, although, of course, spontaneous remissions were occasionally seen. The value of I.C.T. has always been controversial, but the considered opinion of psychiatrists who have had lengthy personal experience in its application has been almost universally favourable, and I am convinced that, with judicious selection of patients, it remains a most valuable method.

In 1934 Meduna described his initial work on treating schizophrenics with induced convulsions. By 1937 his method of provoking major fits by intravenous injection of cardiazol had overcome most of its teething troubles, and was started in this country. The fact that Meduna's original rationale proved to be false, that the treatment has turned out to be far more valuable

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in affective than in schizophrenic disorders, and that cardiazol has been largely replaced by electrical induction of fits, takes nothing away from the distinction of its originator, to whose imagination and pertinacity we owe, in my opinion, the most far-reaching single factor underlying recent psychiatric progress.

I stress the importance of convulsion treatment, because its effects have been so multifarious and widespread. First of all, it has proved a veritable boon in recent endogenous depressions and in such other states as severe mania, acute puerperal psychoses, severe toxic-confusional states and some fulminating schizophrenic reactions, occasionally preventing death from suicide or exhaustion. Secondly, it has exerted a considerable influence on the morale of prospective patients and their relatives, and, in fact, upon the general public, in providing a therapeutic procedure which not only has proved time and again dramatically successful in severe and most alarming mental illnesses, but has altered the apparently hopeless course of thousands of long-standing psychoses, both schizophrenic and depressive.

Thirdly, without convulsion treatment, the bed problem in mental hospitals might well by now have become insuperable. The Worthing experiment (Carse *et al.*, 1958) has shown how steeply the mental hospital admission rate may fall in districts which have facilities for comprehensive out-patient treatment. Describing this experiment, Carse and his colleagues state that in 1957 the mental hospital admissions from the area embraced by the scheme fell by 324 (59 per cent.) from that of 1956, whereas the admissions from the catchment areas outside the scheme rose by 23 (4 per cent.). Now, in these days of mental hospital overcrowding patients are admitted only when strictly necessary, which means either when their illness is too severe for them to remain outside hospital, or when their home situation is inadequate for their care or is psychologically harmful, or when they require a treatment procedure which cannot be given at home. The existence of excellent day-hospital facilities is likely to preclude admission to any large extent only in those cases where home residence is a practical proposition, and therefore only the third factor is of real importance in releasing hospital beds. It is noteworthy that 317 patients received E.C.T. at the Worthing Clinic during the period in question, and it is fair to presume that nearly all of these would otherwise have been admitted to Graylingwell. Reports from other areas enjoying similar facilities, such as Oldham (Pool, 1958), Sheffield (Thorpe, 1958) and Bolton (Leyberg, 1958), indicate similar results. In these districts, and indeed in many others, large numbers of patients are given E.C.T. as out-patients, and each successful course of out-patient E.C.T. constitutes a bed saved for anything from three weeks to three months.

Lastly, but probably most important of all, has been the effect of convulsion treatment upon disturbed and highly excitable patients. By rendering so many of them quieter and more amenable to re-socializing influences, convulsion treatment undoubtedly played a pioneer role in initiating the opening of the old-time chronic, refractory wards, and in accelerating the major reforms of present-day mental hospital practice. Moreover, without the easing of the nursing burden in this type of ward, many hospitals could not possibly have found enough staff to nurse adequately the steadily increasing numbers of old, infirm patients admitted every year.

The mid-1930s may well be called the golden era of the inception of physical treatments in psychiatry; for while Sakel and Meduna were working on insulin and convulsion treatment respectively, Moniz and Lima in Lisbon were developing the surgical technique to be known as pre-frontal leucotomy.

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As long ago as 1889 Burckhardt utilized a form of frontal leucotomy, but this was not followed up and, to quote Kalinowsky and Hoch (1952), "full credit for rescuing Moniz's work from probably the same fate as Burckhardt's earlier attempts goes to W. Freeman, who, together with J. Watts, performed the first such operation in the United States on 14 September, 1936".

Psychosurgery has had a turbulent passage; it has provoked bitter attacks, often emotionally rather than logically derived, and mainly based on the viewpoint that any procedure which might alter the personality, whether for better or worse, is unethical. On that score any educative or psychotherapeutic effort to guide a severely delinquent child into the paths of good citizenship might be equally condemned. More reasonable objections sprang from those cases where excessive brain damage led to irresponsibility and lack of emotional control, which is, in the words of Freeman and Watts (1943), "at times rather trying on the close associates". After 20 years' experience, however, the benefits of psychosurgery can be seen unequivocally to have exceeded the occasional disasters due to undesirable personality changes, especially as they are so seldom permanent. The standard bilateral operation, and other drastic techniques, which alone involve these hazards, should be and largely have been confined to patients with the poorest prognosis, mainly intractable schizophrenics. Even so, with sensible selection, some 20 per cent. of long-standing, severely disturbed schizophrenics can be expected to remit sufficiently to leave hospital, and for the most part to support themselves. In addition, standard leucotomies during the years 1941 to 1954 have been second only to convulsion therapy in changing the atmosphere of the refractory wards in British mental hospitals. During the last 4 years the introduction of tranquillizing chemotherapy has greatly reduced the use of both standard leucotomy and maintenance E.C.T., a topic I shall return to when discussing ataractics.

Modified leucotomies are now largely employed except in severe schizophrenic states, and present far less danger either to life or to the personality. They are particularly valuable in obsessive-rumination states associated with severe tension, the very conditions which provoke the greatest distress and dangers of suicide.

Since 1936 several valuable modifications of existing physical treatments have been introduced, chiefly concerned with convulsion therapy and leucotomy, but no new discovery likely to accelerate the march of psychiatric progress appeared until 1953, when, following the pioneer work of Delay and his colleagues in France, the first of the tranquillizing drugs became at our disposal.

Tranquillizers or ataractics must be differentiated from sedatives. If pushed too far, some of them produce drowsiness, but properly administered the objective in psychiatric practice is to eliminate or diminish psychotic symptoms without reducing the patient to a state of lethargy. Four years' experience of a large number of tranquillizing drugs has taught us that none, so far discovered, is of any comparable value to the barbiturate sedatives in anxiety states, that obsessional symptoms are scarcely influenced at all, and that only the phenothiazine group and the Rauwolfia groups are significantly effective, and then only in certain psychotic conditions. But these two groups have made a definite and deep impression in their particular sphere of influence.

So many wild rumours have emanated from America and other parts of the world to the effect that ataractic therapy was a panacea for practically every type of nervous and mental disorder that I was relieved to find that

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Paul Hoch, whose domain embraces all the 105,000 patients of the New York State Mental Hospitals, shared the conclusions of well-informed opinion in this country. In his opinion (Hoch, 1958) "chlorpromazine is probably the most effective drug in our hands in the treatment of psychotic patients", with reserpine the next best, while "other available compounds such as Frenquel and Miltown are far less effective". It is noteworthy that the patient population of the New York State mental hospitals increased each year from 1946 to 1955 (inclusive) by a yearly average of over 2,000, while during the three years ending March, 1956, 1957 and 1958, the population, instead of showing a further rise, actually fell by 452, 453 and 1,200 patients in each respective year (Brill and Patton, 1957; Brill, 1958). Hoch attributes this dramatic fall almost entirely to the effects of chlorpromazine and reserpine.

In British mental hospitals there has been the same kind of result, but on a much smaller scale, and I think it is fair to say that the impact of tranquillizing chemotherapy in any hospital varies inversely with the efficiency of its previous utilization of E.C.T., leucotomy and rehabilitation programmes. But even where the utmost use of all available treatments had been in force, the phenothiazine and Rauwolfia tranquillizers have brought about changes of real significance. To summarize the present situation, one can say that ataractics of these two groups, judiciously administered, are often successful in eliminating or diminishing such symptoms as restlessness and excitement, aggressiveness, destructiveness, agitation, faulty habits, hallucinations and delusions, occurring in a psychotic setting. They are effective in both recent and long-standing states of schizophrenia and paraphrenia, mania and agitated depression, and tend to diminish the motor and psychotic over-activity so often a disturbing feature in senile and other organic psychoses. In long-standing psychoses, chiefly schizophrenic, most encouraging results have been obtained. Many patients of the poorest prognosis have become quiet, co-operative, friendly and well-behaved, while more than a few have made good remissions. Most of these, at any rate at Bexley, had previously had courses of E.C.T. with only transient benefit, and some had undergone leucotomy. I would say that some 35–40 per cent. of chronic schizophrenics with disturbed conduct are likely to improve to an extent which is incontrovertible, and needs no rating scales to establish. Some 5 per cent. can be expected to become symptom-free, and many more than that get well enough for discharge, if adequate home care is available. The need for maintenance courses of E.C.T. has been substantially reduced, although by no means abolished. A few modified convulsions remain the quickest and surest way of aborting outbreaks of disturbed and disturbing behaviour, and some schizophrenics respond far better to E.C.T. than to ataractics.

To what extent chemotherapy will supersede standard leucotomy in the treatment of schizophrenia is at present hard to say. Certainly much fewer standard leucotomies have been done in Britain and the United States since tranquillizing drugs were introduced. There is no doubt that most long-standing aggressive, noisy and troublesome schizophrenics are benefited by chlorpromazine or reserpine, or by a combination of both, but whether some of these would have made a fuller remission after leucotomy is an open question. The situation is equally problematical in more recent cases. If insulin coma treatment and convulsion treatment have produced only temporary benefit, and tranquillizers have removed the more severe symptoms, leaving a schizophrenic residue, should leucotomy be performed, and if so should it be a modified or a standard operation?

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This leads to other interesting questions. The great majority of chronic schizophrenics who have made a good remission under tranquillizers, eventually relapse, if they stop taking the drug, although perhaps not for many months or even longer. Should we endeavour to keep them indefinitely on a small maintenance dose—often a difficult task—or should we stop treatment after 6–12 months of remission, hoping against hope that some will remain permanently well? We do not yet know whether ataractics can succeed in preventing further attacks of mania or schizophrenia in the recurrent forms of these disorders. Evidence on this point is scanty, partly because patients all too often omit their tablets after feeling quite well for several months, but what evidence there is points to a better prophylactic effect in schizophrenia than in mania.

Lastly, will tranquillizing drugs, with or without E.C.T., take the place of insulin coma treatment? I do not believe the time has yet come to jettison I.C.T., but I hope, and think, that all the more drastic physical methods, including leucotomy, I.C.T. and convulsion treatment, will eventually be superseded, as we learn more about the chemical changes underlying the production of psychotic pictures, and are able to adapt chemotherapy in the light of further research findings.

While pointing out how much we owe to physical treatments in psychiatry, I am very much aware that they are at times employed unnecessarily and even harmfully. Intensive application of E.C.T. is occasionally a life-saving measure, but this is no valid reason for slugging neurotics into a punch-drunk state of confusion by multiple convulsions, nor can I approve the wholesale leucotomy programmes practised in the past at one or two hospitals on practically all schizophrenics, irrespective of clinical picture. Indiscriminate use of ataractics can easily render a hospital population so lethargic as to justify the accusation that we are merely resurrecting the old paraldehyde-drenched wards, without the smell. Unfortunately, any successful and relatively simple method of treatment constitutes a temptation not easy to resist, especially when relatives are clamouring for something to be done. The leading exponents of these treatments realize and deplore their promiscuous use, for Sargant and Slater (1954) state on the first page of the introduction to their well-known text-book, "the trouble is that these treatments may be tried out in an indiscriminate manner", and those with the most experience of tranquillizing drugs have been the first to protest against their misuse, as was evident at the Annual Meeting of the British Medical Association in July, 1957.

I have not intended to make an apologia for physical treatments in psychiatry; in any case that is unnecessary. Rather do I want to make an emphatic plea for abolishing prejudice and petty-mindedness, when considering any form of treatment. The welfare and happiness of the patient and his relatives must outweigh all theoretical considerations and personal predilections. Adolph Meyer's multidimensional approach to the study of each patient is only of real value if extended to treatment, which is not always borne in mind even by devout Meyerians.

In 1940 at this hospital much was done, by habit training and intensive group methods alone, to uplift some of the most deteriorated patients. It was an arduous task with gratifying but only limited achievements, patients tending to fall back without continuous stimulation, which inevitably flagged as enthusiasm gradually burnt itself out. On the other hand, to use physical treatments alone, without the aid of psychotherapeutic, social

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and occupational measures, is tantamount to amputating a leg without afterwards supplying a crutch or artificial limb. Only by intelligent integration of the various procedures at our disposal can we expect to get the best results.

Nobody likes the physical treatments in psychiatry: they are cumbersome, often lengthy, and have their dangers, but when selected and administered with thoughtfulness and care, their failures and occasional disasters are infinitesimal compared with the benefits they bring. That the future will abolish the more mechanistic of the physical treatments I have little doubt, and still less that prevention, at least in the so-called functional psychoses, will in the end largely obviate the need for treatment.

This leads me to speculate for a moment upon the future. For some time the accent has been on mental hygiene, but so far prophylaxis has not extended appreciably beyond the sociological field. I have no doubt that metabolic and physiological (including electro-physiological) researches, which have already helped us to open many doors in mental hospitals, will in the next decade unlock even more metaphorical doors concealing the secrets of psychiatric aetiology. Taking, as an example, the greatest scourge in our field, schizophrenia, we have a condition, or series of conditions, in which at least five aetiological factors are involved—genetic, constitutional, endocrinological, metabolic and environmental. Whatever the primary cause or causes may be, the final pathway seems to lie along biochemical routes. The work of Gellhorn (1943, 1953) on the regulation of the autonomic nervous system, the effects of sympathin, of the hallucinogens and of serotonin upon synaptic inhibition, and the work of Osmond, Hoffer and Smythies (1952, 1954) on adrenochrome, to mention but a few of recent research trends, all point to this.

I think it most likely that the first really effective prophylactic methods against schizophrenia, and some other psychoses, will be in the nature of chemical antagonizers to the faulty metabolic patterns which precipitate the clinical picture. It should be possible with further knowledge to prevent the development of the psychotic stage, and perhaps, by prophylactic treatment in childhood, where the infantile pre-schizoid developmental pattern, described by Bender (1947, 1953) and her followers (Fish, 1957), exists, even to prevent the development of schizoid personalities. If this comes to pass the mental hospital may eventually consist of a small early treatment centre, an even smaller department for intractable psychoses and, I am afraid, a much larger section employed in caring for senile and other organic states.

The year 1956 gave us two stimulating addresses. Both Dr. J. R. Rees, in his Maudsley Lecture on "Psychiatry and Public Health" and Dr. T. P. Rees, in his Presidential Address entitled "Back to Moral Treatment", stressed the immense importance of preventive psychiatry in relation to public health and community life. My thesis is somewhat narrower, but is an essential accessory to theirs.

The key to future treatment lies in prevention; and the key to prevention in the harmonious union of physical and psychological research.

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