

## Drugs and "Moral Treatment"

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In recent years the introduction of neuroleptic drugs into large overcrowded mental hospitals has been accompanied by a striking improvement in their atmospheres which have become more therapeutic and less custodial (W.H.O., 42). Accordingly it has become possible, often for the first time, to organize effective programmes of rehabilitation for the chronic schizophrenics who still constitute a high proportion of mental hospital populations (Brill and Patton, 7). The new programmes have usually included group nursing, planned activities, and graded incentives for patients to strive to regain their positions in society. This approach has placed emphasis on the patient as an individual, having rights and responsibilities, safe, trustworthy, and, with assistance, often able to help himself and others (W.H.O., 41). Because of these changes in the State Hospital, it is not surprising that the literature has been flooded with enthusiastic reports and whole-hearted endorsement of the merits of a variety of neuroleptic agents.

### MORAL TREATMENT

Others have been more sceptical. The historically minded recall that similar conditions prevailed in mental hospitals more than a century ago at the height of the era of "moral treatment". In North America the movement can be traced to the interest taken in the mentally ill by Benjamin Rush, who joined the staff of the Pennsylvania Hospital in 1783. He soon requested kinder treatment, work and occupational therapy for the 24 mental patients who, among others, were housed in his hospital. In 1810 Rush asked for new buildings, better heating and sexual segregation. Furthermore, he requested that "an intelligent man and woman be employed to attend the different sexes, whose

business shall be, to direct and share in their amusements, and to divert their minds by conversation, reading, and obliging them to read and write upon subjects suggested from time to time by visiting physicians".

The "plain and simple maxims (of) the moral treatment of insane persons" were described by Eli Todd, superintendent of Hartford Retreat in 1826. "They are easily understood and are of universal application. These are to treat (the mentally ill) in all cases as far as possible as rational beings. To allow them all the liberty and indulgence compatible with their own safety and that of others. To cherish in them the sentiments of self respect. To excite an ambition for the goodwill and esteem of others. To draw out the latent sparks of natural and social affection. To occupy their attention, exercise their judgment and ingenuity, and to administer to their self complacency by engaging them in useful employment, alternated with amusements." Such treatment in early mental hospitals in the United States usually involved the development of close relationships between physicians and patients; for instance, they often ate their meals together, as Charles Dickens described after visiting Boston Lunatic Asylum. Vigorous and dedicated therapeutic endeavour produced excellent recovery rates and high morale.

These results were paralleled in other countries. Thus in Scotland "a late inmate of Glasgow Royal Lunatic Asylum at Gartnavel", in "The Philosophy of Insanity", extolled the humane conditions that prevailed, and gave great credit to its Superintendent, Dr. Alexander Mackintosh, to whom he dedicated his book (1). Between 1814 and 1859 Gartnavel discharged as "cured" 3,697 out of a total of 8,005 patients, some 49 per cent. of all admitted. Labour was used "to divert the current of thought"; men

were employed in the fields and gardens under supervision, while women occupied themselves with light needlework; light reading, diversions and balls were available to all patients. Dr. Mackintosh sought to educate the community and to bring the hospital closer to it; in addition he persuaded representatives of the press to attend the patients' activities and to report on them. Clearly the regime and the results established at Gartnavel would do credit to many mental institutions even today.

The resemblance between conditions at the height of the moral treatment era and those that have developed in enlightened countries in the last few years has been pointed out by Rees (36). In his view the recent pattern of progress in psychiatry can be regarded essentially as a return to "moral treatment", a return to that long-distant era of kindly, industrious absorbed interest in the problems of individual patients. "In spite of the great advances in scientific methods of treatment in recent years, perhaps the most important change from the patient's point of view has been the return to moral treatment. This is particularly true of the long-term patient in the mental hospital." Rees defines today's equivalent of "moral treatment" as an emphasis on social, recreational and occupational therapy in a therapeutic hospital environment. The study and control of such environments has become particularly important since the advent of the neuroleptic therapies.

#### MORAL TREATMENT IN DECLINE: THE RISE OF CUSTODIALISM

Many authors have discussed the slow attrition of "moral treatment", attributing its decline to such general factors as increasing urbanization, mass immigration, increase in the size of mental hospitals and, in psychiatry itself, to a mechanistic approach patterned on the discoveries in cellular pathology made by Virchow and Van Gieson. In addition, towards the end of the nineteenth century, the development of Kraepelin's comprehensive nosological system led to a preoccupation with patterns of disease or constellations of pathological entities while mental hospital inmates were regarded as of little interest and of only minor importance as

individuals. Whatever the reason, the mentally ill were regarded as suffering from incurable degenerative diseases and were locked away in huge human warehouses which, of necessity, began to be organized on custodial lines. Conditions worsened towards the end of the nineteenth century, and as late as Meyer's early days at Kankakee, a vigorous search for specific causative agents or noxae, adequate to account for the various manifestations of mental illness, was still in progress. In the general climate of enthusiasm which surrounded this quest for specific aetiological factors the lessons of the past were forgotten or ignored, and only painfully and slowly did academic psychiatry, through Bleuler, Freud and Meyer, return to consider the claims of individual patients.

#### INTRODUCTION OF THE NEUROLEPTICS: THE PSYCHIATRIC SCENE IN BRITAIN AND THE UNITED STATES

The advent of the neuroleptics in the early 1950's occurred in a setting that varied widely from hospital to hospital and country to country. Great Britain and the United States may be taken as relevant examples. In Britain at this time the absorption of mental hospitals into the National Health Service led to improved standards of care. This was not an entirely new development, for it represented the continuation of a trend that had been initiated by the physical treatments of the early 1930's. This movement accelerated after the Second World War, revealing itself in a general concern for individual patients in mental hospitals, in which the State began to take an interest. Open door policies, rehabilitation programmes, vocational training and the development of facilities for after-care became the rule in and around the progressive mental hospitals of the United Kingdom. The situation was analogous to that which obtained soon after the French Revolution, when the high ideals of the founders of the new State enabled Pinel to carry out his dramatic and much needed therapeutic reforms.

In Great Britain, the advent of the National Health Service in 1948 enabled senior physicians to continue to work in mental hospitals as clinicians, i.e. promotion did not necessarily

transfer them to administrative duties. At the same time, in several large cities, closer contact between university departments of psychiatry and adjacent mental hospitals was encouraged. These factors, together with a growing emphasis on psychiatry in medical schools, encouraged the entry into psychiatry of a number of enthusiastic young physicians, already in possession of an extensive training in internal medicine and neurology. In many cases they completed their psychiatric training in mental hospitals and so based their approach on medicine and neurology rather than on psychoanalysis, sociology and cultural anthropology. The impact of these physicians in the mental hospitals, together with the enthusiasm of nursing staffs led by progressive superintendents, stimulated, in the better hospitals, a return to "moral treatment" and was probably helped by the advent of chlorpromazine and reserpine (Blair and Brady, 4). Nevertheless neuroleptics were not, in the main, greeted with great enthusiasm by British psychiatrists, either in mental hospitals or universities, and comparatively few British reports attesting significant benefits from their administration appeared in the literature.

Thus Lewis (31) speaking at the First International Congress of Neuropsychopharmacology in Rome in 1958, stated that he viewed neuroleptics as adjuncts rather than prime movers in getting patients back into the community. He thought that the enthusiasm that had been aroused by their advent was akin to the enthusiasm aroused 20 years earlier by electroconvulsive therapy. In any case, their impact had been muffled by progress in mental hospital treatment. In support of this view he cited the work of Rathod (35) and Grygier and Waters (23), who showed, in chronic schizophrenics, that ward activity programmes and occupational therapy respectively produced results that were initially as good as those produced by chlorpromazine. The undeniable improvements that had been achieved by other methods of treatment, together with the traditional conservatism of British medicine, have been invoked to explain the unimpressive results obtained with neuroleptics in Britain, but it may well be that this is not the entire explanation.

The situation in the United States differed

considerably from that in Britain in the early 50's. Many of the numerous university departments and institutes of psychiatry had dedicated themselves to a "dynamic" approach modelled on the prolonged treatment of individual patients through intensive psychotherapy. In practice such psychoanalytically orientated therapy was only available to those who could afford it: the treatment that patients received not infrequently was more contingent upon social status and level of income than psychiatric diagnosis (Hollingshead and Redlich, 26). With the rise of psychoanalysis, individual psychotherapy had become invested with great prestige, and in the training of psychiatric residents considerable emphasis was placed on closely supervised psychotherapeutic experience, often coupled with the formal undertaking of a prolonged personal analysis (Linn, 32). From this viewpoint, no break was seen in the continuum between the young adult troubled by the problems of emotional maturation, the neurotic beset with symptoms arising (it was believed) from intrapsychic conflict, and the psychotic exhibiting behavioural disturbances. These disturbances were attributed to intrapsychic conflicts which, though deeper and further reaching, were not considered to be intrinsically dissimilar from those of non-psychotic patients. Thus arose the belief that, given a psychotherapist with sufficient competence and perseverance, psychotic patients were all amenable to psychotherapy. This "Aristotelian" approach, regarding mental illness as a development of the personality under stress, and removable by psychotherapeutic means, was opposed to the Hippocratic viewpoint which considered mental illness to be a disease process in the brain.

Since the Hippocratic approach was not accepted, overambitious goals were often sought by therapists, particularly by inexperienced ones, and in the American literature, many well known aspects of psychotherapy—the personality of the therapist, the nature of the transactions between therapist and patient and the response of the patient to the therapeutic situation—underwent monotonous redescription in an attempt to explain why some patients did not respond to individual psychotherapy, while

others did. Some astonishing "activistic" psychotherapeutic techniques were developed, for which extensive claims were made (Rosen, 37), but they met with considerable doubt (Horwitz, Polatin, Kolb and Hoch, 27). Nevertheless, since it was believed and taught that individual psychotherapy was the best and most lasting form of treatment in psychiatry, if not the only form, other methods of treatment came to be thought of as second best and not worthy of serious consideration. In many training centres an aversion to the physical therapies developed. These treatments were regarded with distaste, since, by contravening accepted psychoanalytic principles and producing "symptomatic" cures devoid of insight, they were considered to be crude, unscientific and incapable of exerting a lasting effect. Such "symptomatic" cures were viewed with the disfavour with which some psychoanalysts regarded cures due to "transference". This aversion to physical therapies and the "symptomatic" cures that they achieved was carried over, in some measure, to the neuroleptics, though attempts were made to integrate the effects of these compounds with presumptive psychodynamics in a way that was never attempted in Britain (Sarwer-Foner, 40).

In North American private hospitals and university units, failure of the patient to respond to prolonged psychotherapy or his inability to pay for his continued treatment frequently led to his transfer to a State Hospital. Such a procedure did not appear irrational, since it was noticed that the addition of neuroleptics to the therapeutic regime, whilst sometimes of assistance, did not usually confer strikingly convincing therapeutic benefit. The observation seemingly lent support to the view that such therapy was peripheral and secondary to the basic interpersonal re-orientation which, it was believed, had to be achieved through psychotherapy if the individual was to derive lasting benefit.

Since, in the United States, academic prestige and personal advancement were associated with the practice of individual psychotherapy in universities, psychiatric institutes, private hospitals and in private practice, the State Hospitals were hard put to recruit professional personnel and to achieve high standards of care. Academic psychiatry had not been centred on the mental

hospital, as in Germany and Europe; instead, it approached the mental hospital patient through an orientation based on the psychoanalytic approach to neurosis. Brill's translations of Freud, and the arrival of European analysts in the 1920's and 30's, exerted more effect in the 40's and 50's than the continuing tradition of Meyer's psychobiological approach which had been formulated at the turn of the century.

In view of this situation, it is hardly surprising that the North American mental hospitals were for the most part outside the academic pale; sheer size made them unwieldy and created complex administrative problems. These progressively encroached upon the time available to physicians, who had to relinquish clinical interests in favour of administrative duties; the nature of the ladder of promotion made such an action inescapable for physicians who sought professional advancement. Whilst senior physicians in this way often became absorbed in administration, junior physicians working in State Hospitals were often immigrants with language problems. If they were American nationals they were for the most part, as in the academic institutions, preoccupied with gaining experience in the psychotherapy of individual patients, or in undergoing their personal analyses as a precursor to entering private practice. The result of this shortage of physicians interested in long-stay patients was the creation of a vacuum in leadership in mental hospitals. The vacuum was filled in some measure by nurses, but seldom adequately, for their numbers were small, and their training did not equip them competently to take over the duties of the missing physicians. Further, when nurses did attempt to assume the physicians' role, they were frequently guided by the basic theoretical formulations of dynamic psychotherapy, to which reference has already been made. This predominantly individualistic approach served psychiatry badly in State Hospitals, in that it diverted the energies of nurses, psychologists and social workers from the general problems of the care of patients to the much less effective area of conducting therapy by means of individual interviews with selected patients. It is unfortunate that the patients who were often chosen to receive this treatment, regarded by all as the

treatment bearing the highest prestige, were often inadequate, schizoid or psychopathic individuals fundamentally incapable of benefiting from such therapy. As Goffman (21) has shown, for the average patient in many mental hospitals, the outlook was black indeed.

The general situation then in American state hospitals in the early 50's, could be characterized as far from satisfactory. Matters were worsening, for admissions were rising, budgets were falling, staff was becoming ever more difficult to recruit. Few nursing programmes were evident in the wards, particularly those containing chronic patients. Treatment was mainly custodial through lack of leadership, shortage of trained personnel and low morale. It was in this discouraging situation that the neuroleptics produced their dramatic effects; and, soon after their introduction, numerous reports attesting their efficacy began to be published, Kline (30), Freyhan (19), Bowes (6), Brooks (8) and continue to appear to the present day.

It would appear, therefore, that there have been two main patterns of response observed and reported with neuroleptics since 1954.

1. In Britain generally and in the small highly staffed psychotherapeutically - orientated psychiatric hospitals of the United States, some advantages have been noted from their use, but in the main there has been little enthusiasm for these drugs, since they do not appear to have shown any striking advantage over established methods of treatment.
2. In the large State Hospitals of North America and in mental hospitals in other countries, particularly those with meagre programmes of treatment, the efficacy of neuroleptics has been reported as being little short of miraculous.

How may such discrepant findings be reconciled?

#### THEORIES FOR DISCREPANT FINDINGS

Explanations of these discrepant findings can be classified into those concerned with the drugs and with other factors. Most of the former stress the importance of an adequate dose, but it is

difficult to decide what is an adequate dose. Thus, Delay and Deniker (11) who are convinced of the value of chlorpromazine, regard a total daily dose of 200 mgs. of the compound as adequate, and say that they seldom exceed 500 mgs. In this connection, Denber (12), visiting European centres, was able roughly to correlate the levels of dose with national temperament, which he thought might be reflected in the psychoses of different countries. He observed that while 150-300 mgs. of chlorpromazine daily was usually given in England and German Switzerland, workers in France frequently gave 400-600 mgs.; in French Switzerland, an intermediate dose was used. In the United States, Kinross Wright (29) advocated an intensive two-week course of 800-3,600 mgs. of chlorpromazine daily. Not all agreed with this. For example, Ayd (2), who had also tried the effect of massive doses, found that they offered no significant advantage. It has been suggested that an adequate dose was one which produced extra-pyramidal side effects, or was just short of this. Working with newer phenothiazines of the piperazine type, Ayd (3) has recently reported that although there is a correlation between chemical structure, milligram potency and the occurrence of striatopalidial symptoms, such reactions occurred only in predisposed individuals. It is therefore difficult to sustain the view that the purposeful induction of extrapyramidal side-effects is an essential accompaniment of the good results to be obtained from the phenothiazines.

A number of other factors have been proposed, but as the evidence available is negligible, they can be dismissed briefly. It has been suggested that the psychodynamics of the patient plays an important part in determining his reactions to drugs (Sarwer-Foner, 39), but the nearest approach to evidence on this is reported by Gorhan and Sherman (22), who found that there was no relation between the attitude of patients to drugs, as measured on an attitude scale, and their response to treatment. Their only positive finding was that paranoid schizophrenics expressed a strong disbelief in drugs, and this was highly significantly greater than that of other patients. A common opinion is that the attitude of the physician plays an important part in the

results of medication, and one of the first papers on this was by Feldman (17). It cannot be regarded as more than a preliminary inquiry since no attempt was made to ensure that the patients of different physicians were comparable, or that the dosages were similar, there were no control groups, no standard method of assessment of the changes in the patients, and above all, no attempt at a blind trial.

A similar paper is that by Sabshin and Ramot (38), who described a very brief trial of chlorpromazine and reserpine given during a course of electroshock, sedatives and psychotherapy. The physicians in charge had a "relatively negative attitude toward the prescription of drugs", and the authors concluded that the results obtained from the two drugs were poor. They added that "We conclude that the social context within which pharmacotherapy is undertaken has importance in the overall evaluation of therapeutic effect", but unfortunately gave no evidence for this.

A paper of great interest is that of Eisen, Sabshin and Heath (13), who checked physicians' assessments against their own. They found that physicians ascribed improvement in patients much less often to drugs than they did, and this difference was greater in the case of physicians who disapproved of drugs. Nevertheless, the physicians' attitudes only affected their interpretation of the cause of the improvement; all the physicians found approximately the same proportion of improvements among their patients, regardless of their attitudes.

The most useful report on this problem is that by Haefner, Sacks and Mason (24). This was part of the V.A. Co-operative Chemotherapy Project No. 3. Five phenothiazine compounds and also phenobarbitone were used in a double-blind trial. Improvement was rated on the Lorr scale. The attitude of the physicians was measured on a special scale. Analysis of variance of the patients' improvements showed a highly significant relation between (increased) improvement and (positive) attitude to drugs, but this was present only when the patients were on a fixed dosage. Most of the difference disappeared when variable dosage was used. Furthermore, no such difference was found when over-all ratings of improvement were used

(though the authors did not mention this in their summary of their paper). No explanation for the difference between these two results was offered. Unfortunately, the analysis was confined to the results from the 5 phenothiazines, and ignored those from phenobarbitone. Since this drug was shown to have no effect, i.e. it was equivalent to a dummy or placebo, the relation between its effects and physicians' attitudes would have been very illuminating.

One explanation of discrepant results could be the employment of different criteria of evaluation by different observers. In this connection Freyhan (19) has sought to explain the discrepant findings on the basis of a failure to differentiate "target symptoms" (such as psychomotility syndromes) from conceptual diagnostic entities. Although this is probably very important, none the less the explanation does not seem adequate completely to account for the disagreement surrounding the efficacy of neuroleptics.

#### IMPORTANCE OF ENVIRONMENT

In considering the discrepant findings in the light of the explanations already enumerated, it is of interest to note the settings from which the results have originated. As Faurbye (16) has pointed out, the most favourable reports of drug effectiveness have come from the mental hospitals which have the most meagre therapeutic resources. Undoubtedly in these hospitals many potentially recoverable schizophrenic patients still remain, passed over as individuals in consequence of the administrative necessity of managing huge populations of patients despite inadequate budgets and chronic shortages of trained staff. In such settings, bureaucratic developments have often proliferated freely, leading, as Kahne (28) has pointed out, to an atmosphere of impersonality. For patients the discomforts of their surroundings are a constant reminder of the indifference with which society views their plight. "Custodialism" is prevalent, so that staff enthusiasm and morale is low; it is clear that, in these institutions, interpersonal factors play a negligible role in any response that patients may show to pharmacotherapy.

On the other hand, a relatively small number

of schizophrenic patients in the United States receive treatment in private hospitals, university departments research centres and psychiatric units attached to general hospitals. In these settings, often training grounds for psychiatrists, psychiatric nurses and others, morale and enthusiasm is generally high. Cost of treatment may not be a major consideration for patients, and staff-to-patient ratios are usually much higher than in the mental hospital. Yet in spite of these apparent assets, when neuroleptics have been given, the striking improvements reported from the administration of the same compounds in state hospitals have been far less in evidence. It has been known since the days of Bleuler (5) that schizophrenics respond perceptibly to their surroundings; yet the combination of neuroleptics and a therapeutically effective environment would appear to have shown no significant therapeutic advantage over the latter type of treatment given alone.

Reviewing the findings in terms of the settings from which they have emanated, it is clear that one factor is very potent in affecting the response of patients to neuroleptics—the type of environment, in the sense of the interpersonal care and attention that patients receive. The best results have been obtained when neuroleptics have been given in situations in which, for one reason or another, patients were receiving a minimum of individual attention from nursing and medical staff. In other situations where, by contrast, the care of patients has been provided on an intensively organized individual or small-group basis, as in the private hospitals of the United States or in some of the better European hospitals, the addition of neuroleptics to the therapeutic regime has conferred very little additional benefit. This is a puzzling finding if the two therapies are looked upon as additive as has been customary in recent years.

Few studies of the effects of neuroleptics and environment have so far appeared in the literature. Rashkis and Smarr (34) were among the first to recognize the significance of environmental influences and suggested, on the basis of their experience, that such effects could be so potent that it was advisable to evaluate them before carrying out a drug trial.

In a controlled study in which chronic

schizophrenic female patients were given drugs (chlorpromazine and reserpine), or drugs and occupational therapy, and their condition compared with patients who received neither, Meszaros and Gallagher (33) found that in a "well adjusted" ward, both groups of patients receiving special treatments improved significantly and so also did the controls. In a "poorly-adjusted" ward, only the specially treated group improved, and here the patients who received occupational therapy in addition to drugs showed significantly more improvement than those receiving drugs only. The improvement due to environmental influences was thus demonstrated in two different ways, and drugs were found to be supplementary. This investigation demonstrated that the oft-repeated statement that drug trials may have an effect on the entire ward and not just on the patients who receive treatment, is subject to limitations, and is not found invariably. This is in agreement with the findings of other investigators (Hamilton *et al.*, 25).

Grygier and Waters (23) studied the effects of chlorpromazine treatment combined with intensive occupational therapy. They found that chlorpromazine was slightly, but significantly, better than placebo after three and six months when combined with occupational therapy. They suggested that the active drug enhanced the effects of occupational therapy. They did not, however, assess the effects of chlorpromazine alone in their patients.

The paper by Cooper (10) describes an investigation designed on very similar lines. Two groups of 10 chronic schizophrenic patients each were observed for six weeks, and then one group was given chlorpromazine and the other a vigorous programme of group activity. At the end of 24 weeks, both showed about the same improvement as measured by a rating scale for social adjustment. The second group was then given the drug in addition and both groups were assessed after another 24 weeks. Both had improved further and by about the same amount. The first stage demonstrated that drugs and social therapy equally produced improvement, but conclusions from the second stage must be reserved, since the authors pointed out that during this stage, the conditions in the wards

were actively improved. Evangelakis (14) used considerably more patients in a more complex design. He gave five different combinations of treatment to a total of 100 chronic female patients, chiefly schizophrenic. One group received trifluoperazine, covered with anti-parkinsonian drugs when required, another received group psychotherapy and adjunctive social treatments in the ward, with a placebo instead of active drug, and the other three groups received drug and various combinations of the social treatments. The patients could therefore be categorized into three broad groups: those receiving drug, those receiving social treatment and those receiving both. As a result, 13 patients were discharged and 11 patients went out of hospital on trial visit. All of these patients came from the groups receiving combined treatments. With this strict standard of improvement, neither of the two types of treatment was as effective as the combination.

Freedman, *et al.* (18) used the simple objective criterion of frequency of faecal incontinence in severely regressed chronic schizophrenic patients as a measure of effectiveness of play therapy and of play-therapy combined with promazine-mephermine treatment. Play therapy alone resulted in decrease in soiling, but its combination with the drug was more effective. They suggested that the drug treatment accentuated the outcome of play therapy in a quantitative sense, but that the direction of behavioural change was probably determined by social milieu and individual set. They did not determine the effects of the drug alone in their patients.

In recent studies reported by Bullard, Hoffman and Havens (9) and by Evans (15), groups of chronic schizophrenic patients were randomly allotted to two different hospitals, one of which was smaller and provided much more intensive nursing and social therapy. Patients in both hospitals were further divided into groups receiving drugs (chlorpromazine, reserpine, and trihexiphenidyl) and a comparable group not receiving medication. The investigation of these treatments was therefore in the form of a two-by-two factorial design. It was found that clinical improvement in symptoms appeared related to drug treatment regardless of the

different environments, although the smaller hospital did show a markedly higher discharge rate of patients.

Hamilton, Smith, Lapidus and Cadogan (25) went a step further in a study specifically designed to measure the interaction between neuroleptics and occupational therapy. Using a two-by-three factorial design, they investigated the effects of two drug treatments (thiopropazate and chlorpromazine), of placebo and of occupational therapy in a group of chronic schizophrenic male patients. At the end of eight weeks, those patients receiving placebo and no occupational therapy, i.e. the base-line group, showed no improvement, but the patients who had received drugs or occupational therapy had improved significantly. Of particular interest in this investigation was the interaction between the drugs and occupational therapy which, in contrast to the findings of others, showed that the drugs tended to exert some inhibitory effects on the improvement obtained with occupational therapy, an effect which was statistically significant.

#### SUMMARY

The advent of the phenothiazines as a treatment for chronic schizophrenics has been enthusiastically hailed as a great advance, but the history of medicine teaches that the enthusiasm with which a new treatment is greeted is not necessarily a measure of its efficacy, and this is as true of psychiatry as of other branches of medicine. In general, the results obtained with the phenothiazines have not bettered the results of those pioneers who introduced "moral treatment" over a century ago. The present-day equivalent of "moral treatment" has also achieved good results, and its supporters are not over-enthusiastic about the value of the phenothiazines. This review has attempted to bring some sort of order in the conflicting reports and an examination of the work done to combine these two forms of treatment has shown that their role is not yet established. Many more investigations will have to be made to establish the value, indications and inter-relationship of the various treatments available for the mental hospital chronic patient.



## REFERENCES

1. ANON. "A late inmate of Glasgow Royal Asylum for Lunatics at Gartnavel" (1860). *The Philosophy of Insanity*. Edinburgh: Maclachlan and Stewart.
2. AYD, F. J. (1955). "Large doses of chlorpromazine in the treatment of psychiatric patients", *Dis. Nerv. Syst.*, **16**, 146-149.
3. — (1961). "A survey of drug-induced extra-pyramidal reactions", *J.A.M.A.*, **175**, 1054-1060.
4. BLAIR, D., and BRADY, D. M. (1958). "Recent advances in the treatment of schizophrenia: group training and tranquilisers", *J. Ment. Sci.*, **104**, 625-664.
5. BLEULER, E. (1912, transl. 1950). *Dementia Praecox or the Group of Schizophrenias*. New York: International Universities Press.
6. BOWES, H. A. (1956). "Ataractic drugs: the present position of chlorpromazine, Frenquel, Pacatal and reserpine in the psychiatric hospital", *Am. J. Psychiat.*, **113**, 530-537.
7. BRILL, H., and PATTON, R. H. (1959). "Analysis of population reduction in New York State Mental Hospitals during the first four years of large-scale therapy with psychotropic drugs", *Am. J. Psychiat.*, **116**, 495-508.
8. BROOKS, G. W. (1956). "Experience with the use of chlorpromazine and reserpine in psychiatry", *New England J. Med.*, **254**, 1119-1123.
9. BULLARD, D., JR., HOFFMAN, B., and HAVENS, L. "The relative value of tranquilizing drugs and social and psychological therapies in chronic schizophrenia." Presented at American Psychiatric Association meeting, Philadelphia, 1 May, 1959.
10. COOPER, B. (1961). "Grouping and tranquilizers in the chronic ward", *Br. J. Med. Psychol.*, **34**, 157-162, No. 2.
11. DELAY, J., and DENIKER, P. (1956). "Chlorpromazine and neuroleptic treatments in psychiatry", *J. Clin. and Exper. Psychopath.*, **17**, 19-24.
12. DENBER, H. C. (1956). Discussion pp. 75-78 in *Psychopharmacology*. Washington, D.C.: American Association for the Advancement of Science.
13. EISEN, S. B., SABSHIN, M., and HEATH, H. (1959). "A comparison of the effects of investigators' and therapists' attitudes in the evaluation of tranquilizers presented to hospital patients", *J. Nerv. Ment. Dis.*, **128**, 257-261.
14. EVANGELAKIS, M. G. (1961). "De-institutionalization of patients (the triad of trifluoperazine—group psychotherapy—adjunctive therapy)", *Dis. Nerv. Syst.*, **22**, 26-32, No. 1.
15. EVANS, A. "The relationship of drugs and milieu in the treatment of chronic schizophrenia", presented at National Institute of Mental Health—Veterans Administration Conference on Co-operative Chemotherapy Studies in Psychiatry, 8 June, 1960.
16. FAURBYE, A. (1959). "Principles for experimental pharmacotherapy", pp. 245-250 in *Psychopharmacology Frontiers*, Ed. by N. S. Kline. Boston: Little and Brown.
17. FELDMAN, P. E. (1956). "The personal element in psychiatric research", *Am. J. Psychiat.*, **113**, 52-54.
18. FREEDMAN, N., WARSHAW, L., ENGELHARDT, D., BLUMENTHAL, I. J., and HANKOFF, L. D. (1959). "The effect of various therapies upon fecal incontinence in chronic schizophrenic patients", *J. Nerv. Ment. Dis.*, **128**, 562-565.
19. FREYHAN, F. A. (1955). "The immediate and long range effects of chlorpromazine on the mental hospital", pp. 71-84 in *Chlorpromazine and Mental Health*. Philadelphia: Lea and Febiger.
20. — (1959). "Therapeutic implications of differential effects of new phenothiazine compounds", *Am. J. Psychiat.*, **115**, 577-585.
21. GOFFMAN, E. (1959). "The moral career of the mental patient", *Psychiatry*, **22**, 123-142.
22. GORHAN, D. G., and SHERMAN, L. J. (1961). "The relation of attitude toward medication to treatment outcomes in chemotherapy", *Am. J. Psychiat.*, **117**, 830-831.
23. GRYGIER, P., and WATERS, M. A. (1958). "Chlorpromazine used with an intensive occupational therapy program", *A.M.A. Arch. Neurol. and Psychiat.*, **79**, 697-705.
24. HAEFNER, D. P., SACKS, J. M., and MASON, A. S. (1960). "Physician's attitude toward chemotherapy as a factor in psychiatric patients' responses to medication", *J. Nerv. Ment. Dis.*, **131**, 64-69.
25. HAMILTON, M., SMITH, A. L. G., LAPIDUS, H. E., and CADOGAN, E. P. (1960). "A controlled trial of thiopropazate hydrochloride (Dartalan) chlorpromazine and occupational therapy in chronic schizophrenia", *J. Ment. Sci.*, **106**, 40-55.
26. HOLLINGSHEAD, A. B., and REDLICH, F. C. (1958). *Social Class and Mental Illness*. New York: John Wiley.
27. HORWITZ, W. A., POLATIN, P., KOLB, L. C., and HOCH, P. A. (1958). "A study of cases of schizophrenia treated by 'direct analysis'", *Am. J. Psychiat.*, **114**, 780-783.
28. KAHNE, M. J. (1959). "Bureaucratic structure and impersonal experience in mental hospitals", *Psychiatry*, **22**, 363-375.
29. KINROSS WRIGHT, V. (1955). "Chlorpromazine and reserpine in the treatment of psychoses", *Ann. N.Y. Acad. Sci.*, **61**, 174-182.
30. KLINE, N. S. (1954). "Use of rauwolfia serpentina in neuropsychiatric conditions", *Ann. N.Y. Acad. Sci.*, **59**, 107-132.
31. LEWIS, A. (1959). *Neuropsychopharmacology*. Vol. 1, 1959. Ed. by T. B. Bradley, P. Deniker and C. Radouco-Thomas. Elsevier Co.: Amsterdam.
32. LINN, E. L. (1955). *A Handbook of Hospital Psychiatry*. New York: International Universities Press.
33. MESZAROS, A. F., and GALLAGHER, D. L. (1958). "Measuring indirect effects of treatment on chronic wards", *Dis. Nerv. System*, **19**, 167-172.
34. RASHKIS, H. A., and SMARR, E. R. (1957). "Psychopharmacotherapeutic research: a triadistic approach", *A.M.A. Arch. Neurol. and Psychiat.*, **77**, 202-209.

35. RATHOD, N. H. (1958). "Tranquillizers and patients' environment", *Lancet*, 1, 611-613.
36. REES, T. P. (1957). "Back to moral treatment", *J. Ment. Sci.*, 103, 303-325.
37. ROSEN, J. A. (1947). "Treatment of schizophrenic psychosis by direct analytic therapy", *Psychiat. Quart.*, 21, 3-37.
38. SABSIN, M., and RAMOT, J. (1956). "Pharmacotherapeutic evaluation and the psychiatric setting", *A.M.A. Archiv. Neurol. and Psychiat.*, 75, 362-370.
39. SARWER-FONER, G. J. (1959). "Theoretical aspects of the modes of action of the neuroleptic drugs in schizophrenia", *Psychopharmacology Frontiers*, pp. 295-303, Ed. by N. S. Kline, Boston: Little and Brown.
40. — (1950) (editor). *The Dynamics of Psychiatric Drug Therapy*. Springfield: Thomas.
41. WORLD HEALTH ORGANIZATION. (1953). Technical report series No. 73. The Community Mental Hospital. Geneva: World Health Organization.
42. — (1958). Technical report series No. 152. Ataractic and Hallucinogenic Drugs in Psychiatry. Geneva: World Health Organization.

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