THE REVOLUTION IN PSYCHOPATHOLOGY AND ITS IMPLICATIONS FOR PUBLIC HEALTH

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Psychopathology, including the study of the behavior of the mentally ill, has always had close ties with public health. The care of the mentally ill has been a public matter for some 6 or 7 decades in this state and for longer periods abroad. The transfer of patients from the family and community to public care may be regarded as a major revolution at the turn of the century. Unfortunately they became merely a public charge rather than a vital area for work in public health. The discovery of the cause of pellagra with attendant psychosis by Goldberger in the second decade is one of the important achievements of public health epidemiology. But it remains relatively unsung: its impact did not match its ingenuity, and its effect on research has been very limited so far. A succession of new therapies—malaria for general paresis, shock therapies and lobotomy, milieu therapy and psychotherapy and psychoanalysis, though they brought about tremendous changes in psychopathology—have left little or no effect on public health. World War II focussed attention more closely on psychopathology but it was not until the current revolution broke out, about the middle of the 50's, that public health activities became directly involved with mental diseases and mental health.

Never before in the history of public health has it had such a close connection with developments in psychopathology. For this reason, it is important to survey the nature of the current revolution that is quietly occurring in psychopathology and note its implications.

By then the available therapies had won their spurs and had been absorbed into psychiatric practice. It seemed as if a stable equilibrium had been reached when suddenly the revolution broke out.

The field of psychopathology and its allied field, the mental health profession, underwent a terrific upheaval. To be sure, this upheaval had been brewing for some time; but the conjunction of drug-therapies, open hospitals, and the culmination of several socio-economic-cultural trends triggered off a revolution, the likes of which had never been experienced before in the field of mental health. Those who bear the steady burden of case loads are perhaps not fully aware of the extent of the revolution that has taken place. My
purpose today is to examine the nature and causes of this revolution and to draw its implications for public health.

The revolution that I refer to was not unlike a political revolution where long simmering forces unleash a popular reaction against the status quo, law and order are overthrown, prison doors behind which the previous regime confined its opponents are thrown open, new power centers emerge, the national treasury is raided and the revolutionaries settle down to become conservatives, eventually to be overthrown in turn.

The revolution in psychopathology has not been so drastic. It occurred quietly, without public furor, but its effects are no less telling. Law and order in psychopathology as represented by the diagnostic and legal procedures surrounding hospitalization, treatment, and release have been radically modified in the area of mental disease. The area of mental retardation was practically eliminated as an independent category in the new nomenclature. Whether these operations were a success is still debatable. Our admission policies have been liberalized with the result that commitment is becoming rarer and voluntary admissions are more common. The hospital doors have been thrown open, the prison aspect of our institutions is gone, release rates have been doubled in the mental diseases, but admission rates have risen in both disorders. What were formerly custodial, locked-door, institutions have been changed not into open-door hospitals, but revolving door hospitals. Each year about 70-80 per cent of the admissions are released but some 40 per cent are readmitted. The wall between the community and the hospital has been breached; the hospitals are always full but not with the same patients. Clinical psychologists, social anthropologists, statisticians, biometricians, biochemists, geneticists, pharmacologists, behavioral scientists, public health workers and others, hardly heard of in the halls of psychopathology during the 30's, are now, if not resident, at least frequent and interested visitors. Funds for research, rather scarce in the 30's are now, if not ample, at least available from the national treasury. The separation of mind and brain, a firm tenet of the 30's, is no longer regarded as a stumbling block in integrated attacks on mental disorders.

To summarize the results of this revolution briefly, we can say the following: First, responsibility for the mental patient is no longer the psychiatrist's alone. It is shared by the community, the family, and the school and these three social institutions are at present ill-equipped to handle the problem. Second, the detection of the presence of mental disorder is no longer the province of the psychiatrist alone. Psychologists, sociologists, anthropologists, social workers, public health nurses and officers, educators, business and labor leaders, must help in this regard. Third, in dealing with the mentally disordered, we are no longer exclusively concerned with diagnosing their illnesses; we are also concerned with their strengths as well as their weaknesses.
With this brief introduction to the results of this revolution let us turn our attention to its specific elements and to their implications for public health. What has brought about this revolution? One factor which may account for it in part is the precipitous drop in the birthrate brought on by the 1929 depression, a drop which represents an estimated 10 million children who would normally have been born (Havighurst, R. J., 1960). This drop may be likened to a travelling wave propagated in time which produced a trough in the available manpower curve as the depression-born generation moved through life. When this generation reached school age, there was a severe reduction in the number of school admissions; when they reached high school age, a similar reduction there. Fortunately, certain limiting factors prevented this trough from becoming as deep as it might have. Medical care succeeded in reducing infant mortality, thus permitting more infants of this less numerous generation to survive.

The effect of this travelling wave on our economy, health, education and manpower still remains to be traced. It is clear that the shortage in teachers, for example, cannot be blamed on the profession’s lack of appeal alone. It takes 20 years to raise a teacher; the population explosion of the 40’s changed a shortage into a national emergency.

Despite this “manpower shortage”, there has been no shortage of mental patients, especially of schizophrenics. In fact, there has been an increase in admission rates for most of the functional disorders. How do we explain the increase in first admissions while the reservoir from which they are drawn was depleted? It is indeed a tough nut for the statisticians to crack.

I would like to offer one possible explanation, namely, changes in attitude, or increase in tolerance towards mental illness. If admissions increase despite the lowering of the reservoir from which they are drawn, it becomes necessary to inquire whether a new type of patient is being admitted. It is well known that only about 50 per cent of schizophrenics are hospitalized at any one time; the other half, though ill, maintains itself in the community for a longer or a shorter period. What would happen if, suddenly, the number of hospital beds were doubled? The experiences of European countries like Norway indicate that the patient population would soon be doubled also. When there are not enough beds to admit all who need care, only the severe cases are admitted. However, when there are not enough severe cases demanding admission, milder cases take their place. But milder cases also return sooner to the community. This produces a chain-reaction, bringing in more mild cases and releasing them more rapidly. However, when the new crop of babies, born in the 40’s arrives at the age when hospitalization is possible, we may be inundated with a new wave of patients unless we have in the meantime developed adequate methods of care and prevention. This, at any rate, is the picture for the mental diseases.
For the mental deficiencies, which draw their patients largely from childhood, the corresponding trough, originally propagated in the 30's, has already passed. However, as the result of the tremendous rise in the birthrate in the middle 40's, our facilities for caring for the mentally retarded children, who appeared shortly thereafter, suddenly became inadequate. In the meantime, parents of less severely retarded children had also become sensitized to the possibilities of treatment, and came for help. This, at least in part, is the explanation for our present astonishment as to where all of these children who need care come from. Another factor is the reduction of infant mortality and the prolongation of life. Some children who in former years would have succumbed in infancy or in childhood now survive as mentally defective or emotionally handicapped children and adults.

Increased tolerance of the mentally handicapped has been a remarkable development. The impact that the organization of parents of retarded children has had in the improvement of care is one of the most striking phenomena of our day. The fact that the parents of the most severely retarded are quite often found among our most advanced, most productive, and most talented and far-sighted citizens has helped to prevent the stigma of mental illness from attaching itself to mental defects. The random nature of much of severe retardation, attested to by many surveys, has made this possible.

Other causes underlying the drop in our resident hospital population are the cessation of certain trends in population factors which tended to increase hospitalization rates in the past (Pugh, T. F. & MacMahon, B. 1962). Immigration, industrialization, and urbanization have together been responsible for a great share of the upward trend of hospitalization in the past. Their influences are now on the decline, causing a reduction in the rate of increase of the resident patient population which characterized our country up to the middle 50's. Another such contributing factor was the excessive number of socially marginal men who were forced into the hospital during the depression. This cohort is fast dying out and is not being replaced. The biggest change, however, is in release policies. Up to the 40's, only one-third of the patient population was released. Now two-thirds are released. Even though many relapse, hospital censuses have dropped. Instead of caring for the patients in the hospital, we now care for them in the community. With this revolution have come certain changes in the nature of the patient population. Most of the earmarks of the continuous custodial care—waxy flexibility, mutism, echolalia, echopraxia, etc.—have practically disappeared.

For the mentally ill, the greatest factor in bringing about a freer release policy lies with the new means of adjustment by the family and society to the released patient. Formerly, any erratic behavior was taken as a symptom, or as a warning of worse things to come—that the psychosis was returning or that the deficiency was aggravated and the patient would have to go back
to the hospital. Today we are beginning to view slight aberrations as personality quirks, harmless in nature, to be adjusted to, not looked upon with concern. We have known for a long time that remitted patients are more law-abiding, less aggressive (by and large), and not nearly as likely to get into mischief as the rest of the population. At the same time we have also known that they often exhibit transitory behavior which we tend to classify as compulsive, senseless or wasteful, paranoid, depressive, querulous, etc. As long as we regard these quirks as idiosyncrasies, and not as harbingers of full-blown episodes to come, we can live with them. The patient, too, can accept them as slight lapses. Suppose he reacts compulsively, with much wasted effort in performing a given task—the anxiety that this occasions in his family can be contained. The first shock at the appearance of such senseless behavior may jolt the family or the classroom but the alternative of returning the patient to the hospital is no solution. The increased load which the presence of ex-patients places on school and family has to be examined and dealt with wisely. Proper training in dealing with such contingencies is necessary. Inevitably, public health workers will become more deeply involved.

Despite the high level of optimism that now exists in the field of mental health, certain dangers must be kept in mind. First, the implications of the gradual decline in our resident hospital population have to be examined more carefully. As a result of improved release policies, we now have twice as many former mental patients returning to the community in the walks of life as we had in the last decade. There are twice as many ex-schizophrenics returned to care for their children, twice as many ex-schizophrenics returned to executive jobs, and the practice of law, medicine, psychology, psychiatry, teaching, etc. Two decades ago we would have been horrified to see these individuals return to professions involving interpersonal relationships of such high order. Today, we regard this with equanimity. But should we? Only prognostic studies which indicate which of the former patients are likely to make good, can suggest an answer, and such studies are very few in number. Already data are beginning to show the possibly dyssgenic effect of the returned patient. The fertility of families with one or two schizophrenic parents is on the increase. (L. Erlenmeyer-Kimling, Rainer, J. D. & Kallman, F. J., in press.) Whether this bodes ill for the future remains an open question.

Another problem is how much the recognition of mental deficiency rests upon the social-cultural standards. Perhaps the greatest difference in this respect arises between European and American practice, the Europeans being able to retain more of their feebleminded in the community. Thus, the Netherlands, with a population no smaller than New York State, has an institutionalization rate only 1/3rd as high, and Amsterdam, a rate only 1/10th as high as New York City. How the criteria for determining mental deficiency depend on the social milieu is most strikingly expressed by Böök
(Böök, Jan. A., 1960) in the following terms: "Just where, on the slope of the (normal) curve, pleasant physiological stupidity changes into social or medical problematics is a matter of conjecture. More important than such conjectures is the fact that the malignancy of inferior intelligence is a function of technical and social developments and public tolerance."

Recent evidence of the uselessness of our current techniques when applied to underprivileged children comes from the work of Vera P. John (1963). For a long time we had accepted concrete behavior in sorting tests as an indication of schizophrenia in non-organic cases. Vera John has suggested that this so-called "concreteness" is a function of social deprivation rather than of schizophrenia, and all the work on concrete vs. abstract behavior will have to be repeated with suitable socioeconomic and cultural controls.

Thus far we have dealt with population parameters and with the revolution in attitude towards mental illness and in its management. Here let me point out that social psychiatry and its sister discipline, epidemiology, have been in the forefront of scientific progress. We shall now turn our attention to research. In order to discuss adequately the current revolution in research it is necessary to make use of scientific models through which progress in science is usually described. Unfortunately, time will not permit such an excursion. All I can do is enumerate for you the scientific models which have been proposed for explaining the aetiology of mental disorders, especially schizophrenia. These are: (1) social-cultural, (2) developmental, (3) learning theory, (4) genetic, (5) internal environment, and (6) brain function. These have been discussed in a recent paper published by McGill University (Zubin, J., 1964).

The revolution in research and in management has not yet affected the entire scope of psychopathology, but it has influenced diagnoses and evaluation by declaring mental disorder a myth or a unitary condition resulting from coping with life incompetently. Some psychopathologists who still consider mental disorders as real have begun a revision of the methods now used for diagnosis and evaluation of therapy. In the wake of the epidemiological studies that blossomed forth in the last decade, it has become quite clear that our knowledge of psychopathology is limited to a small section of the population of the mentally ill. Most of our techniques for diagnoses have been developed for middle class or upper class patients. We have now gone as far as we can in providing these social classes with assessment techniques suited to their needs and with therapies suited to their tastes. It is tragic that we are entirely unequipped to deal with the fifth of the nation caught in the throes of poverty. It is easy enough to develop specific techniques suitable for each social class and ethnic grouping, it is true—but how are we going to establish comparative norms? We must proceed along two lines.

First, we must develop and explore culture-dependent techniques such as
interviewing, observational techniques, various testing procedures which will provide norms for the various groups and detect deviants from these norms. Secondly, we must provide some culture-free or culture-fair techniques. In a recent paper I had made the suggestion that, for the latter, the answer may lie with the response of the subject which occurs during the first second following stimulation. This first phase of response may occur so fast that cultural-social factors may not be able to make themselves felt. The startle pattern, for example, (Landis, C., & Hunt, W. A., 1939) occurs in the first 300 milliseconds following a pistol shot. This initial phase is universal. At the end of this initial phase, culture takes over. The policeman may draw his gun, the New Yorker dodge into the subway, and the farmer take to the woods; but the startle pattern itself is the same for everyone. If we could find such universal behavior which is at the same time differential with regard to psychopathology, our search would succeed. The usefulness of such techniques in cross-cultural and international studies is, of course, obvious. Unfortunately, only a small portion of patients—some types of epileptics—deviate from the norm with regard to the startle pattern. There are however, other techniques in the first 1,000 millisecond range which are quite promising. Among them are certain aspects of reaction time, two-pulse thresholds, and pupillography.

Other evidence for the importance of psychophysiological indicators in diagnosis comes from the use of derivatives of the interview method—self-reporting personality inventories such as the Cornell Medical Index (Personal communication from Dr. Alexander Leighton). The items dealing with self-reports of ideation and mental content are not nearly as trustworthy as the items dealing with self-report of internal psychophysiological and somatic events (heart palpitations, sweating feet, etc.). It is not clear whether neurotics are more sensitive to normal physiological body events, actually experience deviant bodily events, or have their body events exacerbated by the normal feedback to which the bodily events give rise. Only careful psychophysiological measurements can cast light on this question.

In addition to the problem of assessment of the mentally ill there is the problem of assessment of mental retardation. In this field one of the chief problems is that of distinguishing the congenital mental deficiencies from socially induced mental retardation and from the mental disorders. For this purpose, psychological assessment is indispensable. We have gone as far as we can with the global intelligence tests and with paper and pencil techniques. To assess the capacities as well as the shortcomings of the mental defective, new approaches are now required. Binet, Goddard and Terman did a tremendous service to the feebleminded by providing the mental age scale, but their followers did a tremendous disservice by throwing out those psychological and experimental techniques which though measuring individual difference, did not correlate with the central intelligence factor. Physio-
logical, sensory, perceptual, psychomotor, as well as specific conceptual tech-
niques are needed to assess the abilities and disabilities of the patient. Fo-
cused-interview techniques are needed to evaluate his personality. With the
use of these techniques, better classification, better prognosis, and treatment
more suitable to the individual case will be forthcoming for the wide variety
of the mental deficiencies.

At the present time, intelligence tests, standardized as they are on normal
populations, give a clear picture of the defects of the patients, i.e., of the
low attitude of his general intelligence, but give no idea of the breadth of his
specific abilities. Furthermore, as Dr. Helen Schucman (1960) has shown, the
initial test is hardly as good an indicator of future development as is the
change from initial to retest. The old dictum that mental deficiency was
incurable may still hold true in some instances. But as long as there is life,
there is hope of learning, and while the patient may not learn as much as
a normal, what he does learn may prove quite useful to him and to society,
and sometimes, surprises do occur.

One of the big surprises has been the gradual disappearance of many
mentally defective children in follow-up studies. Apparently, the peak of dis-
covery and institutionalization for mental deficiency is age 14, when the
school closes in on the slow learners and finds them defective. After adole-
scence many of them can no longer be found in institutions or in treatment.
Since there is no evidence for higher mortality, perhaps, slow as they are, many of them finally "learn"—for even an IQ of 50 can theoretically attain
a mental age of 10, at the chronological age of 20. This may happen more
often than we now suspect.

One of the most frequent requests made of the diagnostician is to de-
termined whether there is any organic involvement in the clinical picture
presented by the patient. This will loom larger in time, especially if we begin
to deal adequately with the 1/5th of the nation in the poverty pockets. First
of all, toxemias of pregnancy and other untoward gestation events which
often lead to organically based congenital conditions are much more frequent
in the low socioeconomic level. Secondly, brain injuries and other organic
accidents are also more prevalent in this group. How to distinguish between
psychogenic and organic in a milieu where social-cultural forces occlude the
picture is a tremendous challenge for the clinician.

With regard to therapy, only those psychotherapists who are unashamedly
mystical or sentimental will deny the need for evaluating psychotherapy. The
failures of therapy are well known to the clinical community in America, but
an unequivocal conclusion that therapy is valueless is far from demonstrated.
There is a great difference between recognizing the problems of validating
psychotherapeutic outcome and insisting that there is now sufficient evidence
to establish the null hypothesis. There is a tendency current in some quarters
to give up evaluating therapy and to resort instead to analyzing the process itself. This escape into process will never substitute for actual evaluation. No amount of investigation of "the therapeutic process" is going to give us the answer as to whether psychotherapy was worthwhile in the first place.

Some of the problems in evaluating outcome of psychotherapy are shared with clinical research in general, while others are unique to psychotherapy. The adequacy of controls is a universal problem. The ideal situation to matched identical twins for treatment and non-treatment groupings is no more available to pharmacologists than to psychotherapists. Many workers agree, however, that by using age of onset, duration of disease, sex, and diagnosis as the minimum essentials for comparability of two patients, a workable control situation can be established. Obviously the first 3 parameters are as available for the evaluation of psychotherapy as for that of any other treatment, but it is the last, i.e., diagnosis, that raises particular methodological problems. As long as the essential nature and cause of mental disease are unknown, and there continues to be disagreement among qualified persons concerning the broadest designations of mental disease, diagnosis will be imperfect and unreliable. But disputes about diagnosis can be circumvented for the purpose of a particular research project by a rigorous definition of terms or by the application of clearly outlined symptom complexes for matching of patients.

Recent work in our own laboratory has provided tools which make the life of the evaluator more bearable. By means of systematic interview in which molecular aspects of behavior can be recorded as present or absent, an objective evaluation of the traits and behaviors which characterize the patient at the time of his admission, at release and on follow-up can be readily obtained. These instruments are: (1) The Mental Status Schedule, Spitzer, R. L., Burdock, E. I. & Fleiss, J. L., for use by psychiatrists; (2) The Structured Clinical Interview, Burdock, E. I. & Hardesty, Anne S., for use by clinical psychologists; (3) The Ward Behavior Inventory, Burdock, E. I., Hakem, G., Hardesty, Anne S., & Zubin, J., for use by nurses and attendants. The latter two of these instruments have already demonstrated their usefulness in the evaluation of outcome of drug treatment and of intensive milieu therapy, (Cole, J. O., 1964; Goldberg, S., Cole, J. O., & Clyde, D., 1963).

At the present time these tools are being evaluated for their utility in two areas: (1) severity of illness, and (2) prognosis under specified treatment. It is clear that if we can specify both of these criteria and standardize our instruments against them, we can arrive at a much better basis for evaluating outcomes. Two individuals with similar prognoses should have similar outcomes under two equivalent therapies or different outcomes under non-equivalent ones. An interesting conflict often arises in the mind of the clinician in prognostic studies. When the prognosis is very poor, the clinician
usually redoubles his efforts under the assumption that the case he is treating has the 1 in 1,000 chance of making a recovery. This leads in some situations to undue self-adulation in success and to breast-beating in failure. In others, the failures are soon forgotten and only the successes are remembered. By providing prognostic baselines in a regular manner, the attention of the research clinician can be focused on those with good prognosis who failed and those with poor prognosis who succeeded, while the good as well as the poor prognoses which were borne out by experience can be laid aside. Surprising failures and unexpected successes can do more in furthering our understanding and improving our prognoses than can expected successes or expected failures.

The problems of control are serious, but not necessarily insuperable. It is evident that there is no uniformity among mental health workers with respect to usage of such terms as “cured”, “recovered”, or “improved”. But this problem is not unique to psychiatry. These terms are, after all, in the vocabulary of acute diseases like appendicitis or strangulated hernia, and are as imprecise in chronic conditions such as tuberculosis or cancer as they are in schizophrenia. Tubercle bacilli may be eradicated from the sputum and symptoms may disappear, but if the over-all life expectancy has been shortened, can the patient really be called “cured”? In cancer therapy it is customary to refer to five or ten year “cures”; the arbitrariness of such terms to an individual patient do not compromise their use in evaluating treatments for cancer. It is clear that explicit and precise criteria for outcome are necessary in any satisfactory clinical evaluation. Freyhan’s (1964) insistence that therapy specifically attempts to reduce or eliminate target symptoms is an example of the type of precision that can be introduced.

What are the implications of these revolutionary changes for public health? It is clear that the current revolution has returned the patient to the family and community. How well is the public health worker prepared to play a role in this revolution? What can he do to maintain the level of tolerance for deviant behavior that is necessary for keeping the patient at home? In cases of patients who require maintenance drug therapy, what can the public health nurse do to insure the ingestion of the maintenance dosages? The public health nurse who already plays a role in the family seems to be the ideal agent to maintain contact with the returned patient. She must also be sensitized to detecting psychopathology in other members of the family which is now permitted to go undetected until it is too late. But such awareness must be encouraged with due regard to the varying social-cultural norms in our population. With half of the population below 21 years of age, the need for having a better understanding of adolescents and children from the different social-cultural-ethnic groups seems paramount. Recent developments in geriatrics involving a similar consideration of societal norms and the attempt
to devise more appropriate methods of assessment of illness and care, will demand new attention on the part of public health workers.

One cannot escape the conclusion that, in order to meet the challenges of the current revolution, the public health field will have to undergo a considerable revolution of its own. Even though the interest of the public health worker remains anchored in his discipline, he must get a wider exposure to the entire spectrum of psychopathology if he is to meet future challenges. How to train him to appreciate the entire spectrum—which ranges from anthropology and sociology and social psychology through physiological, sensory, perceptual, psychomotor and conceptual behavior to genetics, biochemistry and brain function—is a paramount problem. If we do nothing else, we must develop the flexibility which will permit a person to transcend the limitations of his specific education and accept the challenge of the new things that are to come.

Among the new areas which are bound to attract attention is the predicament of the poverty-stricken fifth of a nation that is so much in need of help. Our tests, our interviews, our techniques are all standardized on the middle or upper class. It is true that a large portion of the poverty-stricken population is unable to pay for assessment and therapy, but funds for such efforts are becoming available. It is up to our professions to be in the vanguard in breaking through the barrier that has kept one-fifth of the population from educational and occupational opportunities and has thereby increased the hazard of illness. With regard to therapy, medical personnel may have to share the administration of drugs with other specialists: the need is that great. It is quite likely that the drugs needed to control depression or anxiety will eventually be as safe as aspirin. If so, this will mean that sufficient training in and understanding of differential physiological responses to drugs will have to be given to public health officers and others for them to be their own masters in this area.

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