

EDITORIAL

Culture and schizophrenia¹

The cross-cultural study of schizophrenia is not a new avenue of research. It was opened almost simultaneously with the early formulations of the concept of schizophrenia and developed in the spirit of a recognition of the relationship between psychopathological phenomena and the sociocultural context, exemplified by the classical studies of Durkheim. Some of the founders of modern European psychiatry visited what were then regarded as 'exotic' cultures and returned with observations which on the whole tended to strengthen their theoretical formulations which were based originally on patient populations in European institutions (for example, Kraepelin in Java, 1904; Bleuler in India, 1930). In spite of a great number of insightful and penetrating observations, the methodological aspects of the early research in schizophrenia in different cultures have been criticized for a number of reasons: observers' limited periods of contact with the foreign culture, frequent reliance on evidence that was no better than anecdotal, 'Eurocentric' assessment of the cultural background against which the features of the disorder were described, and lack of uniformity in the diagnostic criteria of schizophrenia.

The period between the two world wars was characterized by marked advances in cultural anthropology which resulted in attempts at theoretical formulations of the relationship between psychological adjustment and some essential elements of culture. However, there was only a limited degree of collaboration between this discipline and psychiatry, and conspicuously little was added to the knowledge on schizophrenia. At the same time, empirical studies of the ecology of mental disorder utilizing an epidemiological approach—for example, Faris and Dunham's (1939) study of mental illness in Chicago and Ódegaard's (1932) study of psychiatric morbidity among Norwegian immigrants in the USA—were marking milestones on a road which was to attract increasing attention in the decades after the second world war.

The influence of the environment on the disease process had long been recognized by clinical psychiatrists in the individual case, but the impact of these studies consisted in the convincing demonstration that ecological factors were consistently and significantly associated with certain disease characteristics in large populations of schizophrenic patients. The systematic inclusion of an ecological and cultural dimension in the study of schizophrenia in recent decades has been the result of a need that has been appreciated mostly by epidemiologically-oriented psychiatrists. It has led to a renewed interest in the closer collaboration between psychiatry and the social sciences. The leading part in this alliance is now sometimes played by the psychiatric epidemiologist and sometimes by the sociologist or cultural anthropologist: this explains the differences of emphasis in a number of studies and the broad spectrum of theoretical approaches, ranging from a recognition of schizophrenia as a biologically founded disease entity, a result of faulty interpersonal relationships (Bateson *et al.*, 1956), a product of social labelling (Scheff, 1966), or an artefact of society's repressive structure (Laing, 1967).

Most psychiatrists now accept the assumption that the study of the cultural aspects of schizophrenia can provide important clues to the nature of this disorder—that is, its aetiology, pathology, and response to treatment. Before attempting to examine how well this assumption is supported by the known facts, however, we must refer briefly to two difficulties inherent in this kind of inquiry.

In the first place, the scope and content of the concept of culture are difficult to define. Quoting

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Kroeber and Kluchhohn, Lewis (1965) noted that there existed 160 definitions of culture in English. Definitions like that provided by Walter (1952): 'culture is the learned ways of acting and thinking which provide for each individual ready-made and tested solutions for vital life problems . . .' offer little guidance to the variety of meanings, implicitly or explicitly invested in the term culture as used in empirical research. The boundaries between culture, social structure, and economic organization are difficult to demarcate, and in many instances such a demarcation may not be necessary. Moreover, while culture, subculture, social structure, and economic organization are undoubtedly forces influencing man's 'ways of acting and thinking', so also is the physical environment (external and internal) and, especially where the study of disease is concerned, its influence may be so closely interwoven as to render its exclusion from cross-cultural research undesirable. Therefore, at the present stage of our knowledge, it would be premature to pursue too rigorously the differences between cross- or transcultural, multi-ethnic, comparative and generally ecological approaches to mental illness.

Secondly, the differences in the definition and description of schizophrenia should be kept in mind in evaluating findings from cross-cultural research. Most psychiatrists today agree on the core definitions of the disorder given by Kraepelin and Bleuler but there still are significant disagreements on its boundaries, and this can lead to exaggerated differences in the frequency with which the diagnosis is made, as was clearly shown in the US/UK Diagnostic Study (Cooper *et al.*, 1972). In the absence of external criteria for verification, the diagnosis of schizophrenia depends almost entirely on clinical observation and examination which, in cross-cultural research, present serious additional difficulties. The WHO Programme A on standardization of psychiatric diagnosis, classification, and statistics, during which psychiatrists from many countries participated in diagnostic case exercises, outlined areas of agreement as well as of disagreement in making a diagnosis of schizophrenia and other disorders (Shepherd *et al.*, 1968). According to a number of studies (reviewed by Zubin, 1967) the reliability of the diagnosis of schizophrenia, even within one country, can vary significantly. A wider acceptance of the *International Classification of Diseases* and the accompanying *Glossary of psychiatric disorders* will hopefully increase international agreement on the diagnosis of schizophrenia but, at present, the results of studies of schizophrenia in different cultures should be approached with due caution, unless a clear operational definition of the disorder is given. A method of tackling this type of difficulty has been developed in the *WHO Report of the International Pilot Study of Schizophrenia (IPSS)* (1973).

The main findings of transcultural research in schizophrenia can be summarized in terms of (1) incidence and prevalence of the disorder; (2) symptomatology; and (3) course and outcome. Before reviewing these findings, however, we would mention the historical perspective applied to cultural research, and those observations which relate to cultural change.

SCHIZOPHRENIA IN HISTORICAL PERSPECTIVE

Although, according to Zubin (1968), a description of schizophrenia can be found in the ancient Indian text of *Caraka Samhita*, dated 3300 years ago, Jaspers (1963) noted that 'so far as we know schizophrenias were never of importance in the Middle Ages, while in the last few centuries it was precisely these that took striking effect . . .'. The scarcity and the questionable validity of early descriptions of schizophrenia have recently revived hypotheses of a viral origin of the disorder, relating the increased incidence of schizophrenia to the effects of the mass introduction of smallpox vaccination (Torrey and Peterson, 1973).

Retrospective historical studies of schizophrenia necessarily cover a limited time span and usually do not go back further than the 19th century. This limitation is imposed by the difficulty in identifying schizophrenia among the psychotic states that had been described before the diagnostic criteria were laid down for the several syndromes incorporated later into the disease entity of dementia praecox.

In their study of the admissions for psychoses in Massachusetts in 1840-44 and 1940, Goldhamer and Marshall (1953) concluded that the age-specific rates of hospital admissions for schizophrenia

did not change significantly over a period of 100 years. By contrast, the prevalence ratio increased markedly, due to the ageing of the population and changing admission policies. In a similar study, carried out in Budapest and comparing the hospitalized psychoses in 1910 and 1960, Varga (1966) noted that both in 1910 and 1960 about one-quarter of the hospitalized patients suffered from schizophrenia but that the proportion of the paranoid forms was smaller in 1910. The schizophrenics at the beginning of the century were characterized by more florid symptomatology than in 1960, but the percentage of severely deteriorating cases in 1910 (16.7%) was not greater than in the 1960 sample. Varga failed to find evidence of an association between schizophrenia and 'social circumstances' in 1910 and concluded that there was 'more similarity than difference' between schizophrenic psychoses occurring in the two different historical periods.

The results of studies such as Goldhamer and Marshall's or Varga's should be approached with caution. The similarities found between rates for schizophrenia across two points in time may well be merely a reflection of the persisting attitude of the psychiatrists toward this disorder or of the stability of the admission policies with regard to schizophrenic patients. The importance of these factors in the evaluation of changes of the rates for psychosis over time has been demonstrated by Shepherd (1957).

SCHIZOPHRENIA AND CULTURAL CHANGE

The occurrence of psychoses among migrants has often been quoted as an example of the mental health hazards associated with change of the cultural environment. However, since Ödegaard's classical study which demonstrated an increased risk of schizophrenia among Norwegian immigrants to the US as compared with the corresponding rate in Norway (Ödegaard, 1932), few studies have produced clear evidence that migration *per se* is associated with a heightened expectancy of schizophrenia and other psychoses. This suggests that some kind of selection may have been responsible for Ödegaard's positive findings. Thus, in a study of all immigrants from Finland, West-, South-, and East-Europe, and a sample of Swedes who contacted the psychiatric services in a Swedish town during six months in 1971, the prevalence of schizophrenia among the migrants was, in fact, lower (4%) than among the sample of the natives (7%), although the former had a higher rate of psychoneurotic disorder (Haavio-Mannila, 1974).

A number of studies have demonstrated that schizophrenic patients tend to concentrate in urban areas (Bloom, 1968) and in city districts of specified socioeconomic characteristics (Faris and Dunham, 1939; Hare, 1956) but the evidence that the processes of urbanization and modernization have as their by-product a higher incidence of schizophrenia is not conclusive. Fifteen years after their initial survey, Lin *et al.* (1969) found a significant increase in the total prevalence of mental disorders in Taiwan (from 9.4 per 1,000 to 17.2 per 1,000). The rate for psychoses, however, showed no increase and there was even a decrease in the frequency of schizophrenia.

The significance of these negative findings is difficult to assess in the light of suggestions (for example, the Papua New Guinea study—Torrey *et al.*, 1974) that the risk for schizophrenia is increased for those rare populations where 'Westernization' interrupts a pre-existing relative cultural isolation.

SCHIZOPHRENIA IN DIFFERENT CULTURES

There are a great number of observations on the occurrence and symptomatology of schizophrenia in different cultures but relatively few studies qualify as truly comparative or cross-cultural.

PREVALENCE AND INCIDENCE

Some of the reported findings in epidemiological surveys of the prevalence of schizophrenia in different cultures are presented in summary form in the Table.

With few exceptions—for example, the very high rate found by Böök (1961) in a Northern Swedish community and the low rate reported by Eaton and Weil (1955) for the Hutterite sect—the data on

TABLE
EPIDEMIOLOGICAL SURVEY DATA ON PREVALENCE OF SCHIZOPHRENIA IN DIFFERENT CULTURES

Country	Investigator	Year of survey	Population studied	Prevalence (per 1,000)
S. Korea	Yoo	1956-60	11,974 (rural)	3.8
China	Lin	1946-48	19,931 (mixed)	2.1
Japan	Uchimura*	1940	8,330 (rural)	3.8
	Tsugawa*	1941	2,712 (urban)	2.2
	National Survey	1954	total (census)	2.3
India	Dube	1970	(mixed)	2.17
Iran	Bash and Bash-Liechti	1972	(rural)	2.0-2.1
USA	Lemkau*	1936	55,129 (urban)	2.9
	Roth*	1938	24,804 (rural)	1.7
	Eaton and Weil	1956	8,542 (rural)	1.1
Denmark	Strömgen*	1935	45,930 (rural)	3.3
	Juel-Nielsen and Strömgen	1962	total (census)	1.5
Norway	Bremer*	1944	1,325 (rural)	4.5
Sweden	Böök	1953-54	8,651 (rural)	10.8
	Sjögren	1944	8,736 (rural)	4.6
Germany	Brugger*	1929	37,561 (rural)	1.9
	Brugger*	1930-31	8,628 (rural)	2.5
England	L. Wing <i>et al.</i>	1966	175,304 (urban)	3.4
Scotland	Mayer-Gross	1948	56,231 (mixed)	4.2
USSR	Zharikov	1972	175,783 (urban)	5.1†
	Krasik	1965	(urban)	3.1
			(rural)	2.6
Bulgaria	Jablensky <i>et al.</i>	1972	140,758 (urban)	2.8

*Quoted from Lin (1960).

†Per 1,000 aged 16+.

the prevalence of schizophrenia appear to be very similar in different cultures.² However, the significance of this seeming similarity cannot be assessed without more knowledge concerning the methods, the diagnostic criteria, and the demographic characteristics of the populations on which the surveys were based. Thus, the proportion of patients diagnosed as schizophrenic out of the total reported prevalence of psychiatric disorders in several Asian countries varies between 19.5 and 63.8% (Wulff, 1967). Moreover, similar overall prevalence rates may mask important differences in the incidence, age, and sex distribution of the disorder.

In their survey of mental illness among Formosan aborigines as compared with the Chinese in Taiwan, Rin and Lin (1962) found that, although the life-time prevalence of all mental disorders (except epilepsy) among the aborigines was the same as among the Chinese, the rate for schizophrenia in the former was lower than in the Chinese. Murphy and Raman (1971), in a study of first admissions for schizophrenia in Mauritius, found that the age-specific incidence rates for the total population of the island were very close to those reported in England and Wales.³ However, there were significant differences between the three major cultural groups on the island—that is, the Indian Moslems, the Hindu Indians, and the non-Indians—the Moslems having the lowest, and the non-Indians the highest incidence rates. A recent study in Papua New Guinea (Torrey *et al.*, 1974) reported a very low prevalence of schizophrenia among the native population, but of special interest were the significant differences in prevalence between geographical regions (.10 and .56 per 1,000) in which the population had had different amounts of contact with Western culture and civilization.

Striking inter-regional differences in the frequency of schizophrenia have also been reported in

²Few data are available on the prevalence of schizophrenia in Africa. Tooth (1950) found only 33 cases of schizophrenia in two provinces of the Gold Coast. According to Lambo (1960), out of 906 patients treated at Aro Hospital (Nigeria) in 1957-58, 48.4% were diagnosed as schizophrenic. Leighton *et al.* (1963) described a prevalence of schizophrenia of almost 10 per 1,000 in their study of psychiatric disorders among the Yoruba but their sample was very small (262 cases).

³The admission rate for schizophrenia in many communities equals, for practical purposes, population survey results (Ödegaard, 1952).

Europe (for example, in Croatia, Yugoslavia (Crocetti *et al.*, 1971)). Finally, there are several reports of surveys in developing countries which failed to identify schizophrenic patients among the populations studied. Thus, Giel and van Luijk (1969–70) interviewed a sample of 370 in a small Ethiopian village and found a 9.1% prevalence of psychiatric disorders. None of the 36 cases was diagnosed as schizophrenia, but this may have been a consequence of the small sample size or of other relevant factors. Such reports cannot be interpreted as lending support to the assumption that some populations may be free of schizophrenic disorders.

In summary, the existing data on the prevalence and incidence of schizophrenia in different cultures and different subcultures are not conclusive. Differences in the rates of occurrence of the disorder reported in populations of particular epidemiological interest (for example, ecological or genetic isolates, junctions between different cultural influences) have led to a revival of interest in the old question about 'diseases of civilization', to reservations regarding the belief 'that schizophrenia is a universal disorder that occurs with approximately the same prevalence in all societies known to man' and to suggestions that 'schizophrenia may be more common among societies that have had greater exposure to Western influences' (Torrey *et al.*, 1974).

SYMPTOMATOLOGY

Both similarities and differences are reported in the literature with regard to the clinical manifestations of schizophrenia, and it seems that selective emphasis on either could find factual support. According to Murphy and Raman (1971), the symptomatology of the patients in their Mauritius sample corresponded to what is regarded as schizophrenic symptomatology elsewhere. Describing psychoses among the Aivilik Eskimos, Carpenter (1953) wrote that the cases of schizophrenia he observed 'parallel standard Western forms of catatonic schizophrenia'. Pfeiffer (1967), drawing from his long-term observations in Indonesia, concluded that 'the disease pictures are essentially the same as in Central Europe' but nevertheless described in detail at least five characteristic differences: (1) the frequent occurrence of excited-confusional initial states; (2) an admixture of manic features; (3) the rare occurrence of typical catatonic states; (4) the low proportion of paranoid schizophrenic syndromes; and (5) the rarity of systematized delusions. Very similar findings were reported by Wulff (1967) in Vietnam. Lambo (1965) described in Nigeria a characteristic symptom-complex consisting of anxiety, depression, vague hypochondriacal symptoms, bizarre magico-mystical ideas, episodic twilight or confusional states, atypical depersonalization phenomena, emotional lability, and retrospective falsification of hallucinatory experiences. This symptom pattern was the most frequent presenting picture of schizophrenia among the non-literate rural Yoruba, while the literate and urban schizophrenic patients of the same ethnic stock tended to develop symptom patterns approximating to the types described in Europe. Differences in symptom patterns have also been described between Japanese and Caucasian patients (Katz and Sanborn, 1973) and between Japanese and Filipino patients (Enright and Jaecle, 1963) in Hawaii. Differences of a similar extent have been reported to exist between schizophrenics of Irish and Italian origin in the USA (Opler and Singer, 1956).

Symptomatological differences are probably reflected in the frequency with which certain subtypes of schizophrenia are diagnosed in different cultures. Thus, in Pfeiffer's material, 60.3% of the cases were diagnosed as hebephrenic, 27.2% as catatonic, and only 11.9% as paranoid. Again, out of 74 schizophrenics on a census study in Papeete, Polynesia, 57 had an 'unspecified' form of the disorder, five were catatonic, four hebephrenic, and four paranoid (Bonnaud, 1970).

The question of the relative frequency in different cultures of certain symptoms regarded as characteristic of schizophrenia is of a particular interest. Both Pfeiffer (1967) and Wulff (1967) stress the relative rarity of Schneider's 'first-rank symptoms'⁴ in South-East Asia. According to Wulff, the criteria for formal thought disorder are almost never applicable to Vietnamese patients because of cultural factors, or because of the different structure of the language. In Nigerian schizophrenics, the

⁴Auditory hallucinations in the third person discussing the patient; hearing one's own thoughts aloud; experiences of 'thought-broadcasting', 'thought-insertion' or 'thought-withdrawal'; delusions of control.

distinction between primary delusions and their secondary pathoplastic elaboration may be very difficult in practice (Lambo, 1965). Symptoms which in European studies have been described as characteristic of schizophrenia but rare in occurrence—for example, olfactory or haptic hallucinations—seem to be frequent and less ‘pathognomonic’ in patients from developing countries. By contrast, visual hallucinations, seldom regarded as characteristic of, or frequent in, schizophrenia, are more common among African schizophrenics. Social withdrawal and emotional flattening, both accepted as important symptomatic facets of schizophrenia in the European tradition, appear to be less frequent in some cultures—for example, among the Bahians in Brazil (Stainbrook, 1952), or quite frequent in others (India, Mauritius, Japan) but of less ominous prognostic significance. The frequent occurrence of confusion, visual hallucinations, emotional lability, and disturbances of motility in acute schizophrenic states in cultures as wide apart as Nigeria and Indonesia makes the differential diagnosis from organic disorders a particularly difficult task. It is interesting to note here Lambo’s observations (1965) that demonstrable organic disease—for example, trypanosomiasis—in Africa is usually of a slow and insidious onset and in its early stages may mimic the Western stereotype of deteriorating schizophrenia.

The similarities and differences between schizophrenic symptomatology across cultures can be illustrated by two studies in which a more systematic cross-cultural approach was utilized. First, Lorr and Klett (1969) applied their factor-analytically derived typology of psychotic syndromes in a study of a total of 1,100 psychotic patients sampled from six countries (England, France, Germany, Italy, Japan, and Sweden) and came to the conclusion that, allowing for certain variations, the same original six psychotic types could be found among the patients in each country. Secondly, in a questionnaire survey, designed to tap psychiatrists’ impressions of the clinical manifestations of schizophrenia in 27 countries, Murphy *et al.* (1963) found (1) that, despite some variation, there was a ‘common, agreed method of viewing and reporting on schizophrenia’ among psychiatrists from different cultural backgrounds, probably reflecting the common factors between the several psychiatric schools of thought in which the participants in the exercise had been trained, but (2) that ‘doubt has been thrown on the picture which Euro-American psychiatry has built up of the schizophrenic process’. This doubt was the result of the significant differences they observed in the frequency with which certain manifestations of schizophrenia were reported in the different cultures. Thus, visual and tactile hallucinations were most frequently reported in Africa and the Near East, social and emotional withdrawal in Japanese and Okinawan patients, catatonic negativism and stereotypy in East Indian and South American patients. Other differences—for example, the frequency of occurrence of paranoid delusions, delusions of grandeur, and depersonalization—appeared to be more related to differences between urban and rural environments rather than to gross cultural entities.

In summary, most studies indicate that the majority of clinical symptoms and signs commonly associated with schizophrenia can be found to occur in a great variety of cultures but the relative frequency and predominant content of some symptoms vary markedly from one culture to another.

COURSE AND OUTCOME

Several studies indicate that there may be significant differences in the course and outcome of schizophrenic disorders between different cultures and that these differences generally point to a distinction between patients identified in the developing and the developed countries.

The frequency of an acute onset of the psychosis has been noted, among others, by Lambo (1960, 1965) in Africa, Pfeiffer (1967) in Indonesia, and Wulff (1967) in Vietnam. In their study of mental illness among Formosan aborigines, Rin and Lin (1962) observed that ‘the psychotic cases tend to follow a relatively favourable clinical course and prognosis, and the schizophrenic reaction was no exception in this regard. If left alone untreated in the aborigine communities, a large proportion of schizophrenic cases recovered within two years’. In the Mauritius study (Raman and Murphy, 1972) a 12 year follow-up of 215 first admissions for schizophrenia showed that 60% of the patients were functioning normally and had suffered no relapses since leaving hospital: the proportion of such cases in a five year follow-up in England and Wales was about 40% (Brown *et al.*, 1966).

It is important to note that prognostic indicators commonly held as predictors of good or poor outcome in schizophrenia—for example, mode of onset, presence of confusional and affective features, etc.—failed to discriminate between types of outcome in the Mauritius sample. On the other hand, the presence of physical illness—for example, malnutrition or anaemia, or psychosomatic symptoms in the initial stage of schizophrenia—appeared to be associated with a trend towards chronicity.

Pfeiffer's observation (1967) that in Indonesia 'chronic defect states . . . appear to be no less frequent than in Europe and essentially correspond to the usual forms' is in agreement with Raman and Murphy's finding that in Mauritius the proportion of deteriorating patients was approximately the same as in England and Wales. The results of these studies suggest that, although in all the cultures in which comparisons were made a roughly similar proportion of schizophrenic illnesses run a deteriorating, chronic course, there is a relative excess of patients in developing countries in whom the disorder has an extremely good prognosis, even if left untreated.

The results from the two year follow-up of the International Pilot Study of Schizophrenia (IPSS) are still being analysed but they seem to indicate that there are differences in the course and outcome of schizophrenic psychoses in the nine countries that were included—Colombia, Czechoslovakia, Denmark, India, Nigeria, Formosa, the Union of Soviet Socialist Republics, the United Kingdom, and the United States of America. The differences, although not all were significant, point to a trend toward a larger proportion of illnesses with a better outcome and milder course in the patients from developing countries as compared with those from developed nations. The significance of this finding and its relationship to other variables within each culture remain to be investigated; the results of the five year follow-up may throw additional light on this phenomenon.

PROSPECTS FOR RESEARCH

There is little doubt that nowadays the study of the cultural aspects of mental disorder should no longer be compared with a botanist's interest in exotic flowers. The expansion of international communication, including exchange of information on health and disease, stimulates eagerness in different societies to learn from each other and makes international comparisons increasingly feasible. In the field of psychiatry the dissatisfaction with the slow progress and the meagre yield of the search for causes of some major disorders, such as schizophrenia, exerts an additional pressure toward widening the scope and framework of research in the hope that important clues may be hidden somewhere beyond any single cultural horizon.

While this may be a legitimate expectation, its realization encounters a number of methodological obstacles which, unless overcome, lead to a state succinctly summarized by Pepper and Redlich (1961):

'Many cross-cultural studies tend to be hopeless conglomerations of disparate observations. Without more systematic and standardised methods of reporting results, it seems premature at this point to hope that factors of universal significance in the aetiology of mental disorders (non-"culture-bound") will be separated out by such studies'.

The observation and description of the minutiae of psychopathology in different cultures and subcultures can be carried on *ad infinitum* without contributing any substance to scientific knowledge in psychiatry, unless a general strategy is defined on the basis of a recognition of the relevance of cross-cultural research to the broad major issues in psychiatry. In this context, the main value of the cross-cultural approach is essentially comparative. It enables the investigator to study, in the setting of a 'natural experiment', the interplay of a wide array of factors—biological, physical, and behavioural—in the variations in the manifestations of mental illness which are due to environmental factors and which can provide valuable guidance to biologically-oriented research in psychiatry. At the same time, a better knowledge of the mechanism through which the environment operates, and of its effects on mental disorder, may eventually help identify those segments of the environment which are amenable to preventive or therapeutic modification.

There are at least three groups of methodological questions related to the cross-cultural approach to mental disorders and, more specifically, to the cross-cultural study of schizophrenia:

1. How should culture be defined and measured? Which classes of psychological phenomena, in health and disease, can be related to cultural differences and which cannot?
2. How should behaviour and its changes be measured reliably? How can schizophrenia be defined operationally and its manifestations be measured?
3. How can the paradigm of the controlled experiment or observation be applied in a transcultural context? How can the rate of occurrence and the manifestations of schizophrenia in different cultures be measured? Which factors should be kept under control?

Even though none of the above questions can be answered adequately at present, a critical examination of the state of the field may point to approaches for future research.

DEFINITION OF CULTURE

Culture is an ill-defined, molar concept, flexible enough to embrace anything from child-rearing practices and kinship systems to the preferred size of automobiles in a given part of the world. Without questioning the value of much cultural-anthropological research for an understanding of the influence of traditional social factors in shaping behaviour patterns in certain isolated and stagnant societies, one is left with the impression that the word 'culture' is overused, as a blanket term, to cover and often to obscure a number of economic, political, social, biological, and physical-environmental factors which can be associated with psychological disturbance. Culture is clearly a multi-variate entity, and its study in relation to mental disorder requires both operational definitions of its components and measuring instruments to supersede the uncontrolled observations and anecdotal evidence that are often used by anthropologists.

Progress has been made in studying the relationships between the occurrence of psychosis and some variables belonging to culture. There is a good deal of highly sophisticated research on the associations between schizophrenic and social stratification (Hollingshead and Redlich, 1958; Goldberg and Morrison, 1963), urban ecology (Faris and Dunham, 1939; Hare, 1956; Bloom, 1968; Bagley *et al.*, 1973), and life events and stress (Birley and Brown, 1970). However, there is so far little to suggest a specific link between schizophrenia and such traditional foci of interest in cultural anthropology as the kinship system, child-rearing practices, and prescientific beliefs. The hypothesis of a regression in schizophrenia to archaic forms of thinking and communication which parallel 'normal' phenomena in a 'primitive' society has found little factual support. Attempts to explain the allegedly high frequency of schizophrenia in East Asia as a result of the 'Eastern way of life which is rigidly hierarchical and formal and which prizes and rewards introversion'; the frequency of catatonic states in India as due to the Indian's 'traditional tendency to reject society and the postures adopted by certain types of sanyasi or yogi'; or the 'barrenness of the clinical picture' in Africans by 'the paucity of their cultural and intellectual resources and their difficulties in dealing with abstractions' (Wittkower and Rin, 1965) can hardly be regarded as scientific and are reminiscent of value-judgments which should belong to the past.

Cultures may not be as different as is often assumed in cross-cultural research. Some anthropologists (Hallowell, 1965) believe that the weight of evidence points to a basic unity of man across cultures which is reflected in common personality types, common basic strategies for dealing with stress, and common basic forms of psychological disturbance. This is supported by empirical evidence from recent cross-cultural studies, such as Inkeles' study of the 'syndrome of modernity' in six different parts of the world (1973) and by a mass of psychiatric research which stresses the 'cultural invariance in primary symptomatology' (Zubin and Kietzman, 1966) or the 'worldwide similarity of relationships between psychopathological syndromes and social class' (Dohrenwend and Dohrenwend, 1967).

On the other hand, variations within a particular culture may be as large as the differences between cultures. This important aspect of the problem has received comparatively little attention in past

research, much of which has been oriented primarily toward enunciating cross-cultural differences. If a multivariate approach to the study of culture and mental disorder is to be utilized, then a wide range of variables should be identified and defined, extending from social and economic factors or types of stress and stress-reducing devices characteristic of specified segments of the society, to infant mortality, gene pools, or degrees of exposure to noxious environmental agents. Appropriate measuring tools for these variables can be developed, at different levels of universality—'culture-bound', 'culture-fair', and 'culture-free' according to Zubin (1967). Approaches of this kind have been used in a number of studies (Venables and Wing, 1962; Rin *et al.*, 1966; Murphy, 1968), which have attempted to link epidemiological or clinical findings to specific measurable social and biological variables.

FORM, CONTENT, AND CAUSATION

The study of the variations in the occurrence and manifestations of schizophrenia, including variations in a cross-cultural context, depends to a significant degree on two kinds of important theoretical distinctions inherent in classical European psychiatry; between form and content of psychopathological phenomena (Jaspers, 1963) and between pathogenic and pathoplastic factors in causation (Birnbaum, 1974). These distinctions form a logical frame of reference that has been applied in many studies which have indicated a cross-cultural similarity in the basic forms of symptomatology of schizophrenia (possibly pointing to a common pathogeny) and a cultural variability in the content of symptoms, accountable for by the operation of cultural pathoplastic factors.

This standpoint has been criticized by those research workers who stand closer to the theory of cultural relativism and believe that each culture produces its own forms of disturbance. According to this view, similarities in the forms of symptomatology in schizophrenia are only superficial and disappear on closer scrutiny, since 'the usefulness of the Kraepelinian diagnostic system and its derivatives is limited by its culturally narrow origins' (Enright and Jaeckle, 1963). Such an argument can be answered in the words of a Nigerian faith-healer who, when asked by a well-known psychiatrist (Leighton, 1965) why he used the words 'delusions' and 'hallucinations' in describing one of his patients, replied:

'Well, when this man came here he was standing right where you see him now and he thought he was in Abeokuta . . . he thought I was his uncle and he thought God was speaking to him from the clouds. Now I don't know what you call that in the United States, but here we consider that these are hallucinations and delusions!'

The literature on the cross-cultural aspects of schizophrenia contains no evidence that in any culture does this disorder manifest forms of symptomatology which cannot be accounted for by the definition and classification of schizophrenia as laid down by Kraepelin and Bleuler. Moreover, regardless of differences in the 'baseline criteria of normality and abnormality' in different cultures (Katz and Sanborn, 1973), the evidence suggests that psychopathological behaviour is reliably recognized by the members of each culture (Kiev, 1972). This may not always apply to individual symptoms—for example, hearing 'voices' can be a 'normal' experience in certain subcultural groups—but even in such settings the total 'Gestalt' of psychopathological disturbance is recognized by the members of the group.

The results of recent studies—for example, the IPSS—suggest that it may be possible to develop a transculturally applicable definition of the syndrome of schizophrenia, compatible with the 'classical' concept of the disorder, and based on symptoms which are universally found and least dependent on the psychiatrists' own cultural and personal bias. The application of this definition would in no way diminish the importance of studying pathoplastic influences on the content or threshold of symptoms. If this definition could be supplemented further by cross-culturally applicable measures of primary versus secondary handicaps in schizophrenia (Wing and Brown, 1970), it would represent a major step forward in the methodology of epidemiologically-oriented cross-cultural research in schizophrenia.

METHODS

Even if a reliable operational definition of schizophrenia is available, and even if measurable variables are specified within a given cultural context, cross-cultural research may still yield uncertain results, unless the essential conditions of the controlled experiment or observation are met in the design of the study.

The present methodologies of cross-cultural research are far removed from the simplicity of design characteristic of the laboratory experiment, which may never be fully attainable in so highly complex a field. However, the consistent application of the epidemiological method in cross-cultural studies may be the best approximation to the paradigm of the controlled observation. The need for standardized and reliable assessment in psychiatric epidemiological research requires the development of a set of cross-culturally applicable methods, a set of cross-culturally applicable instruments, and the training of research workers capable of utilizing them in a comparable and reliable way (Sartorius, 1973).

For example, the method of case-finding, which is a recurrent methodological problem even in studies in the developed parts of the world, can present serious difficulties in many developing countries where population registers are incomplete or non-existent and where many psychotic patients never come to medical attention. The difficulty is well-illustrated by the phenomenon of the African 'vagrant psychotics' who eventually escape the net of epidemiological surveys, however thoroughly organized after the usual European or American model (Harding, 1973).

Another source of difficulties is associated with the techniques of observation and interviewing. Even allowing for linguistic problems, the interviewing technique itself should be carefully examined for its applicability in settings where, for example, the patient may expect to be told, rather than asked, by the medical man about his problems. It may be advantageous if the patient is approached by a research worker from his own culture, and the standardization of research instruments should go hand in hand with the training of psychiatrists from various cultures in the use of such instruments.

If the concept of culture embraces a great variety of factors then many different kinds of hypotheses can be evoked to explain and test further the significance of such findings as the reported differences in incidence and prevalence, symptomatology, course, and outcome of schizophrenia in various cultures. Thus, a difference in the incidence rate, if valid, could be due to demographic factors—for example, population in a high-risk age-group; genetic factors, environmental factors—for example, hypothesized viruses; or social factors which affect pathoplastically the rate of clinical manifestation of mild or latent forms of the disorder.

The number of possible explanations for differences in prevalence can be even greater. A variety of social factors have been shown in previous studies to affect the course of schizophrenic illnesses, and some cultures may be able to provide more readily appropriate social niches for persons suffering from the primary handicaps of schizophrenia, thus attenuating the severity of the resulting secondary handicaps. On the other hand, the greater proportion of schizophrenic disorders having a milder course and better prognosis in certain cultures may be associated with an increased infant mortality for carriers of the severe, and presumably genetically-founded, forms of the disease.

Hypotheses of this type are related to the notion of schizophrenia as a biologically rooted disease, but it should be equally possible to test, in a cross-cultural context, hypotheses of schizophrenia as a learned response to psychosocial stress. A methodology of cross-cultural research in schizophrenia, relying on an epidemiological approach and approximating as an equivalent to the famous Koch's postulates, would appear to be a promising strategy, open to extensions into the fields of both the social sciences and biological psychiatry.

Finally, improvements are needed in the way of reporting research findings. Few reports give adequate attention to the description of study design or population characteristics and methods, and results are not always presented in a form which would permit of reanalysis or replication. Secondary analysis or reanalysis of data in the light of new findings or new hypotheses can be an important research tool in the field of cross-cultural psychiatry where replication of studies is too

costly or difficult to organize. A systematic re-evaluation of the field, or the 'study of studies', could constitute a significant aid to this objective.

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