The abstracts that appear below are among the most recent additions to the computer-based information storage and retrieval system operated by the National Clearinghouse for Mental Health Information. They were selected for inclusion here on the basis of their direct relevance to schizophrenia; judgments about the quality of the article or book abstracted have been left to the reader. Because this issue focuses on biology, a special effort was made to include references to the most recent biochemical studies.

Because the Clearinghouse routinely scans all mental-health-related literature, its information system includes references to a great many articles of potential use to readers who are involved with research, training, or treatment in schizophrenia. Many of these references—notably reports of basic research—may not be published in the Bulletin, but are available from the Clearinghouse in other publications or through individually generated bibliographies. A comprehensive list of new articles on drug trials in schizophrenia, for example, is published monthly in the Psychopharmacology Abstracts. Readers who wish to request computer printouts of late references or comprehensive bibliographies on specific aspects of schizophrenia may write: Technical Information Section, NIMH, 15-C-26, 5600 Fishers Lane, Rockville, Md. 20852.


The difficulty in identifying all but the most obvious schizophrenic thought disorder by psychometric methods indicates a need for new procedures. The present study involves the development and application of a scale to detect thought disorder by means of preference intransitivity. The scale, containing a total of 120 item pairs to be judged for preference, was administered to 90 subjects (30 schizophrenics, 30 psychiatric controls, and 30 nonpsychiatric controls). Results indicate that schizophrenics produce more intransitive judgments than nonschizophrenics and that the intransitivity score is independent of age and intelligence. Although the scale in its present form may not be powerful enough for diagnostic use, the method appears to warrant further development. (18 references) (Author abstract)


This study attempted to refine the procedures and confirm the findings of an earlier study conducted by Weckowicz, in which schizophrenics showed a low capacity to perceive hidden objects in a picture. Thirty schizophrenic patients and 30 neurotic control subjects were given the Gottschaldt Figures

attention, perception, and cognition
Test—judged to be more difficult than the picture test used by Weckowicz in the earlier research. Results showed that the schizophrenic subjects had consistently lower scores than did the neurotic control group; as their scores were not related to other variables measured in the study (e.g., extraversion), it would appear that the most important factor in the schizophrenics’ low scores was something absent in the neurotics—“schizophrenicity.” (7 references)


The rate of reversals experienced in two tests of reversible perspective (ambiguous figures) and in two tests of binocular rivalry was shown to distinguish at a statistically significant level among cancer patients, rheumatoid arthritics, patients with duodenal ulcers, and a control group with miscellaneous disorders; it also was found to differentiate between matched groups of schizophrenic patients with and without cancer. These results are discussed in terms of the part played by the Integrative Systems of the organism both in relation to the test results and the disorders experienced. (12 references) (Author abstract, modified)


Previous work by the senior author showed that preferences for musical excerpts tend to be biased by the order of presentation. This tendency, similar to the time-error phenomenon in psychophysics, suggested a common underlying process between preference judgments and psychological judgments. In the present study, the time-error paradigm was employed to focus on observable functional stages of schizophrenics’ affective transaction. The preference bias (time error) of 92 schizophrenic and 56 normal subjects in successive comparisons of piano excerpts was examined in two experiments. In the first, the preference level of paired excerpts was varied; both schizophrenics and normals liked the second excerpt of a pair increasingly more (negative time error) or increasingly less (positive time error) as the preference level of the paired excerpts increased or decreased from the indifferent midregion. In experiment 2, the indifferent pairs were interpolated by pleasant excerpts or unpleasant excerpts in order to vary the background preference level during the intrapair interval; here, the preference bias of both schizophrenics and normals tended to be positive in the former case and negative in the latter. The interpolation or context effect, however, was markedly smaller in the schizophrenics than in normals. It appeared that in experiment 1 the impression of the first excerpt of a pair was neutralized or attenuated during the “unfilled” intrapair interval, and in experiment 2 the impression of the first excerpt was filled by or assimilated to the pleasant or unpleasant excerpt interpolated in the intrapair interval, as Helson’s adaptation-level theory and the assimilation theory of the Gestalt school postulate. In view of the results in experiment 2, it was suggested that the schizophrenics, compared with the normals, have difficulty in temporal processing of affective stimuli or memory systems which encode, retain, and retrieve the affective events and that the psychological deficits observed in schizophrenics’ sensory and cognitive functions are also quite relevant for understanding the patient’s affective judgment. (23 references) (Author abstract, modified)


Under appropriate testing conditions, normal subjects can be shown to have an associative response hierarchy similar in its finest details to that given in cultural word-association norms. To determine whether this also holds true for chronic schizophrenics (whose response repertoires are supposedly deviate), groups of chronic schizophrenics, chronic tuberculosis patients, and normal controls were given single and continuous word-association tests. In addition, subjects were required to choose the most related response from a set of associated responses to single-word stimuli. Results indicated that the chronic schizophrenics gave only slightly more idiosyncratic free associations than the control populations, and this difference disappeared when matched subjects were considered. Furthermore, chronic schizophrenics were shown to perform as well as a matched control group in choosing the most related response word in a multiple-choice frequency-discrimination test. It was concluded that the primary associative defect in the chronic schizophrenic is not a disruption of culturally acquired association patterns; rather, his idiosyncratic verbal behavior occurs despite the fact that his capacity for discriminating normal free idiosyncratic responses parallels that of normals. (16 references) (Author abstract, modified)
An attempt to validate the Brief Paired Associate Test (BPAT) of new learning as a screening test for organic brain disease is presented. Patients on two long-stay wards whose diagnoses had been previously established as clear-cut organic brain disease or as functional psychoses served as subjects. Easily administered and acceptable to patients, the BPAT discriminated between the two groups at the \( p < .005 \) level, despite the problem of schizophrenic "dementia." A test of calculation (Wilson, 1967), however, just failed to discriminate between the two groups at a statistically significant level. (17 references) (Author abstract, modified)

Eleven types of restricted associations and free associations were obtained from 24 chronic schizophrenics and 24 normal control subjects matched for age and education. The schizophrenics’ associations were more variable than those of normal subjects, especially on those tasks which most restricted the choice of response. Agreement between normal and schizophrenic subjects’ responses was markedly lower when compared with that between high and low creative subjects or with 1-year test-retest data. Repetition of responses given to the same stimuli under different instructions was markedly higher for schizophrenic and normal subjects, and thus the degree of task and response differentiation was reduced. Restricted associations overlapped with free associations more markedly for schizophrenic than for normal subjects, but the general structure of a conceptual semantic space was about the same for both groups. When explicit constraint in verbal association tasks is high, it was argued, schizophrenic subjects impose a lower degree of implicit constraint on their verbal behavior than do normals; when the external constraint is low, however, they increase their implicit constraint. (26 references) (Author abstract, modified)

A schizophrenic speaker’s difficulty in communicating may result primarily from his inability to produce normal associations and/or to edit his associations before emitting them. In the study reported, schizophrenic and normal control subjects were asked to perform two speaker tasks. In the first task, which required both association production and editing, the subject had to produce for each stimulus array a clue word which would distinguish a referent from a nonreferent. In the second task, which required only an editing process, the experimenter provided two possible clues for each array and the subject was asked to select the better one. Controls communicated better than schizophrenics in both tasks, which would indicate that the schizophrenic speakers could not effectively edit their messages. (6 references) (Author abstract, modified)
All the patients of this study were examined conjointly by the clinical psychology, neurology, and neuropsychology services and grouped according to a range of ego weaknesses—neurotic, borderline, and psychotic. The three services were in significant agreement in their reports of brain damage. The degree to which they concurred when sampling different behavior would seem to be a measure of the extensiveness of the impairments. (6 references)


The term schizophrenia describes a certain constellation of signs and symptoms characteristic for a type of thought disorder which, for lack of demonstrable somatic pathology, has been considered to be functional. Among attempts to find a biochemical abnormality in schizophrenia, one area of interest has centered on the plasma proteins. This paper describes the characteristics of alpha-2-globulin isolated from the plasma of schizophrenic patients. The substance differed significantly from similar preparations present in nonpsychotic persons—both in a rat behavioral test and in its effects on photically evoked potentials in rabbits. The biologically active agent is unstable but can be stabilized by the use of reducing agents. A small molecule, possibly belonging to the substituted phenethylamine series, appears to be attached to the alpha-2-globulin. Experiments with dimethoxyphenethylamine, a compound which has been reported to be excreted by some schizophrenics, are described. Also discussed is the possible significance of other biologically active amines to disturbed mental states. (27 references) (Author abstract, modified)


Phasic electrodermal orienting response (OR) to brief tones at 60, 75, or 90 db was studied. Results in retested and newly recruited normal control subjects and “clear” and “confused” chronic schizophrenic subjects supported earlier findings obtained using brief visual stimuli. Confused patients, in particular, showed diminished reactivity to stimuli of low to moderate intensity. A moderate increase in stimulus intensity significantly improved initial OR frequency among confused patients without affecting response amplitude, and further increase in stimulus intensity brought initial OR amplitude up to normal levels as well. Chronic schizophrenics again showed consistently faster habituation than controls. Results are not attributable to particular diagnostic subgroups or total time in the hospital. While long-hospitalized patients with a hebephrenic diagnosis are more likely than other patients to be confused, it is the fact of confusion that is significant in determining OR. Results suggest faster but less detailed assimilation of information among chronic schizophrenics in general, along with a defensive attenuation of specific input among confused patients in particular. (30 references) (Author abstract, modified)


Four young adult male chronic schizophrenic patients were studied in a double-blind placebo-promethazine-trifluoperazine experiment. Promethazine (50 mg., orally) increased total sleep time and decreased total minutes and percent rapid-eye-movement (REM) sleep in at least one of several time bases used for examining the data. This change was produced by prolonging cycle lengths without changing REM episode durations. No change in REM intensity was observed. Trifluoperazine (5 mg., orally), in the initial study and in two of the patients on reexamination, tended to increase minutes and percent REM sleep without changing total sleep time. Cycle lengths were not changed; although the average REM durations tended to be increased (especially the third episode). There was no evidence suggesting a depressant action on REM sleep. (18 references) (Author abstract, modified)


Various theories involving the elucidation of a possible metabolic disorder in schizophrenia are considered. Currently, two concepts appear prominent. The first involves the study of plasma protein abnormalities and the second, amine metabolism disturbances. Difficulties in standardizing clinical diagnoses and the possibility that schizophrenia represents a spectrum of disease entities of varying etiologies have been noted as serious obstacles to research in this area. It is suggested that coordinating various research endeavors would result in more agreement on conceptual models. Psychological, social, and environmental factors, as well as biochemical and genetic factors, may all be involved to some degree. (67 references)
were as follows: 22 percent had a positive reaction to the antistreptococcus vaccine; 4 percent to candidine; 13.6 percent to the Schick Test; 22 percent to dust; 13 percent to pollens; and 68 percent (on the average) to the three different levels of histamine. Of the nonschizophrenics, 57 percent had a positive reaction to the tuberculin test; 27 percent to the antistreptococcus vaccine; none to candidine; 30.7 percent to the Schick Test; 29 percent to dust; 25 percent to pollens; and 74 percent (on the average) to the three different levels of histamine. The following differences between the schizophrenics and the nonschizophrenics were significant: Tuberculin, candidine, and the antistreptococcus vaccine. (23 references)

A critical study of the theories regarding taraxel—an protein complex found in the blood serum of schizophrenics—originating from the work of Heath, is presented. Heath’s hypothesis states that schizophrenia is an immunological disease, a gamma immunoglobulin that changes cerebral function by combining with the antigenic areas of the nuclei of the neurons in the septal region. Studies based on this hypothesis in schizophrenic patients and normal volunteers are reviewed. Heath’s conclusions and those of Martens confirmed the hypothesis. Siegel could not confirm these results, even though Heath had described to him the preparation of taraxel, which involves a complicated method of protein fractionation. The opinions of Kety, Fremont-Smith, and Lehmann are reviewed regarding this subject. (39 references)

An examination is made of all the hypotheses concerning schizophrenia that have been disproved, challenged, or simply never corroborated. A problem common to all these hypotheses is the lack of a definition for schizophrenia. While studies have dealt with “the group of schizophrenias,” all studies are carried out as if, under the diversity, there is a single and constant organic substratum. Most studies deal with chronic patients, who are usually most accessible. It seems that, biologically speaking, chronicity changes a patient into “another man.” (31 references)

A comparison of stage 3 and stage 4 EEG in schizophrenic and control subjects revealed no difference in stage 3 EEG but an average reduction of 50 percent in the amount of stage 4 sleep in the schizophrenic group. While it is possible (although in our view unlikely) that this difference represents a distribution change in total amount of gamma activity, it seems more probable that it resulted from anxiety or other variables associated with schizophrenia than from the psychosis itself. There are also, however, some reasons for suspecting that stage 4 changes may be linked to the psychosis, per se. Since these changes represent the most consistent abnormality in the EEG sleep pattern of schizophrenia, their significance should be carefully evaluated. (23 references) (Author abstract, modified)


The relation of immunity to mental illness is investigated through a study of the immediate and delayed skin response to a series of various antigens. The following solutions were used: Three different strengths of histamine, purified tuberculin, antistreptococcus vaccine, candidine, Schick solution, allergenic extracts of pollen, and allergenic extracts of dust. The results with schizophrenics were as follows: 22 percent had a positive reaction to the tuberculin test; 31 percent positive to antistreptococcus vaccine; 4 percent to candidine; 13.6 percent to the Schick Test; 22 percent to dust; 13 percent to pollens; and 68 percent (on the average) to the three different levels of histamine. Of the nonschizophrenics, 57 percent had a positive reaction to the tuberculin test; 27 percent to the antistreptococcus vaccine; none to candidine; 30.7 percent to the Schick Test; 29 percent to dust; 25 percent to pollens; and 74 percent (on the average) to the three different levels of histamine. The following differences between the schizophrenics and the nonschizophrenics were significant: Tuberculin, candidine, and the antistreptococcus vaccine. (23 references)
ways, including the metabolism of radioactively labeled DMPEA. Further basic research of DMPEA and related compounds is recommended before it can be determined whether they have a significance in schizophrenia. (19 references)


Studies are presented of the alleged occurrence of a certain class of substances (the mauve factor) in the urine of schizophrenic patients. Using the rapid method devised by Eilman, a survey was made of a substantial portion of the inpatient population of a State hospital. Results indicated that 32 percent of the patients yield positive results. No significant relationship was found on the critical variable of diagnosis. A relationship did appear with the month of urine testing. May, June, and July showed a low percentage of positive results, while August, September, and October showed a high percentage. The quantity of mauve factor excreted evidently depends upon some unidentified environmental influence.


Metabolic concomitants of mental illness are discussed. A study was performed to define the physiological and metabolic status of the schizophrenic individual as he passes through an active stage of psychosis. Subjects were 32 male schizophrenic patients. Urine and blood specimens were taken on a regular schedule, and other observations were made. Very few measurements were found to distinguish the psychotic schizophrenic from the schizophrenic in remission—until the severely psychotic group was divided into those who were physically hyperactive and those who were not. The physically hyperactive group differed from all others on several vital signs: hours of sleep, ammonia excretion, and excretion of epinephrine and norepinephrine. The implication is that, in schizophrenics, there is a dissociation between the cerebral cortical activity manifested in anxiety and the peripheral physiological consequences that one would expect to occur.


The identity of the pink spot—a compound first isolated from the urine of 15 schizophrenics in 1962—was investigated. Early research identified this compound as 3, 4-dimethoxyphenethylamine (DMPEA). This study shows that the pink spot consists not of DMPEA but chiefly (if not exclusively) of tyramine. Further, it is unlikely that it contains amino acids. (15 references)


On the basis of previous work suggesting an association between metabolic methylation processes and mental disease, the metabolism of the S-methyl group of methionine was studied in human subjects. C14-S-methyl methionine was administered intravenously to five normal subjects, five patients with schizophrenia in remission, three patients with acute schizophrenia, and three depressive patients. The specific activity of C14O2 appearing in the breath was measured continuously for 2 hours and the resultant curves were fit to the function $F(t) = A(e-\alpha t - e-\beta t)$. The curves were different from normal in the acute schizophrenic and depressive patients. The parameters A, r1, and r2 were examined for probability of significant difference between the means at the a=0.01 level: The schizophrenic patients in remission showed no difference from normal; the patients with acute schizophrenia had a significantly lower value of r1; the depressive patients had significantly higher values of A and r1. Two of the three acute schizophrenic patients were not receiving medication at the time of the study but the possibility of an alteration of the above parameters by medication cannot be excluded in the depressive patients. Some possible implications of the results with regard to metabolic methylation reactions are discussed. (12 references) (Author abstract)


Patients with various psychiatric disorders were investigated for folate deficiency. As part of this investigation, the serum folate, whole blood folate, serum B9, and peripheral blood examinations were studied. None of the various psychiatric disorders could be ascribed to folic deficiency; nor was
The psychiatric and psychological status of a group discussed. It is concluded that no objective evidence any correlation found between subnormal serum folate values and the type and amount of the administered psychopharmacological agents. The value of serum folate as an indicator of folate deficiency is discussed. It is concluded that no objective evidence has yet emerged to support some authors' contention that folate deficiency is the sole or dominant etiological factor in the production of psychiatric disorders. (13 references) (Author abstract, modified)


The psychiatric and psychological status of a group of chronic schizophrenics followed over an 8-year period was found to undergo significant improvement, as measured by the Malamud and Sands Psychiatric Rating Scale and the Wechsler. Adult Intelligence Scale. The Halstead-Reitan test battery and several other neuropsychological tests reported to be sensitive to central nervous system deficit were also administered to this group of chronic schizophrenics. Except on the sentence repetition test, their neuropsychological test performance was grossly impaired. Reliability measures obtained using a test-retest technique indicated that the test battery was highly reliable. Performance on the neuropsychological tests was found to be related to psychiatric status, certain demographic variables, and drug regimen; these tests appeared to be more sensitive to the severity of the schizophrenic process than to the presence or absence of neurological deficit. (27 references) (Author abstract, modified)


Sleep patterns were studied longitudinally in six acute schizophrenic patients throughout most of their hospital stays (ranging from 25 to 224 consecutive nights), and the data were compared with those from 15 normal control subjects. The sleep patterns of these six patients showed unique differences from those of the control subjects, as well as from sleep patterns of severely depressed patients and normal subjects under experimental conditions. No definitive interpretation of these findings can yet be made, however, as further extensive and systematic case studies are needed to determine whether the sleep disturbances reported here are an inherent aspect of all acute schizophrenic exacerbations. (33 references) (Author abstract, modified)


This study attempts to corroborate earlier research that showed high titers of rabbit hemagglutinins in schizophrenia. (The elevated titers of various hemagglutinins which occur in certain diseases have been used to aid diagnosis.) Sera from 89 schizophrenics, 83 nonpsychotic psychiatric patients, 130 medical or surgical patients, and 101 blood-bank donors were assayed by the quantitative photometric hemagglutination technique for the titer rabbit hemagglutinins. Based on statistical analysis the schizophrenic population could not be distinguished from the other patient populations. If, however, the prediction is made that the patient groups as a whole have higher titers than the normals, analysis strongly suggests that these represent different populations. These data indicate that the incidence of high levels of rabbit hemagglutinins is not characteristic of schizophrenics, or even of psychiatric patients in general, but appears to be associated with admission to a hospital. The nature of the rabbit hemagglutinin is discussed. (23 references) (Author abstract, modified)


The method of average error, modified for research in schizophrenia, was used in establishing both the absolute auditory threshold and the threshold of unpleasantness in chronic schizophrenic patients and normal controls. Although chronic schizophrenic subjects had a higher absolute threshold than the control group, they evidenced a lower threshold for tones which became unpleasantly loud. The results indicate that chronic schizophrenic patients find external stimulation aversive, that they function within a narrow range of auditory stimuli, and that the same auditory stimuli cannot be considered equivalent for schizophrenic patients and normal controls. (16 references) (Author abstract, modified)


The nailfold capillary bed and the gross appear-
Two acutely psychotic patients, one a manic-depressive and the other an acute schizophrenic, are discussed. Both had marked increases in the activity of creatine phosphokinase (CPK) and aldolase in serum. The increases in serum enzyme activity were significantly correlated with clinical course, occurring at times of severe stress which preceded or coincided with psychotomotor behavior. The CPK and aldolase present were the muscle type. No increase in CPK and aldolase activity in spinal fluid was noted. Some of the factors which might be expected to affect serum CPK and aldolase activity were considered: physical activity, catecholamines, secretion of steroids, medication, and weight loss. These factors do not appear to account for the increased activity of CPK and aldolase. The increased enzyme activity is discussed as a manifestation of subtle myopathic changes in acutely psychotic patients. (48 references) (Author abstract, modified)


The activity of creatine phosphokinase (CPK), aldolase, serum glutamic oxalacetic transaminase (SGOT), and lactate dehydrogenase (LDH) was studied in newly admitted psychiatric patients and normal controls. Serum-CPK activity was increased in 24 of 37 acutely psychotic patients, some of whom had had repeated admissions. In some specimens, the CPK activity was 20 times the upper limits of normal. Although there were some increases in aldolase activity in the acutely psychotic patients, none was found in SGOT or LDH activity. There were no increases in serum-CPK activity in nonpsychotic psychiatric patients, but patients with toxic psychoses and with some acute brain diseases, such as brain trauma, had increased CPK activity. The implications of these findings for diagnosis and further research are discussed. (23 references) (Author abstract, modified)


Creatine phosphokinase (CPK) activity, REM and non-REM sleep time, and behavioral ratings were monitored longitudinally in eight acutely psychotic patients and eight nonpsychotic depressed patients. Marked increases in CPK activity and decreases in REM and non-REM sleep time were observed in almost all the acutely psychotic patients during periods of psychosis but not during remission. In most


The pilot study reported here indicates that substantial elevations of serum creatine kinase (CPK) and aldolase activity may occur in acutely psychotic patients of all diagnostic categories. The elevation of the enzyme activities sometimes preceded the first clinical detection of the psychosis by a few days, was generally highest during the 1st week of a psychotic episode, and occasionally recurring throughout the illness, particularly at times of stress. These serum enzymes were not found to be elevated in the following groups of severely disturbed psychiatric patients: Chronically psychotic patients, markedly anxious or depressed nonpsychotic patients, and autistic children. Slight but persistent increases in serum CPK activity were discovered in the parents of some psychotic patients. The serum enzymes were found to be of the muscle type rather than of cerebral or hepatic origin. The implications of finding a biochemical abnormality common to the acute psychoses are considered. (38 references) (Author abstract, modified)
of the acutely psychotic patients, sleep disturbance, serum-CPK increases, and psychosis ratings were very highly intercorrelated. The peak of the disturbance of sleep preceded the peak increase in CPK activity by from 2 to 4 days in three patients. The nonpsychotic patients had essentially no abnormality of sleep or serum enzyme activity. The highly correlated sleep disturbance and serum enzyme changes in the acutely psychotic patients may be nonspecific concomitants of psychic stress or may imply a central nervous system disturbance. (14 references) (Author abstract, modified)


Improved methodology for nailfold capillary study is proposed. By means of a one-way mirror, a drape on the arm and hand of the subject, and earphones worn by the experimenter, the identity of the subject was reasonably well concealed from the experimenter. The length, width, and degree of twist of the distal rows of capillaries and the degree of visibility of the subpapillary plexus were obtained for the four fingers of the left hand of each subject by observation through a microscope. Color photographs were taken for each subject and evaluated independently of the live observations. Forty-three staff members and 53 schizophrenic inpatients were divided on the basis of activity into two groups (58 active and 37 inactive). In addition, 13 familial schizophrenics were examined. Interjudge and test-retest reliabilities were determined. Of the major independent variables studied (schizophrenia, activity, smoking, and body type), only schizophrenia and activity reached significance. The greater incidence of plexus in familial schizophrenics reported by Maricq was not confirmed. Reliability was adequate for the measurement of most variables, but for some time it was lower than previously reported. The photomicrographs were generally not of sufficient quality to eliminate the need for detailed live examination. The blind technique was both feasible and effective, but can be improved.


An Immunodiffusion method demonstrated an abnormally high amount of an unidentified antigen in serum from schizophrenic patients. Antisera from rabbits immunized with schizophrenic serum euglobulins were absorbed with lyophilized normal serum to produce a reagent that reacted to a greater degree and more rapidly with schizophrenic (chronic and acute) serum than with normal serum. The unidentified antigen in plasma is almost completely recovered in a 20 millimole zinc precipitate and is located by Immunoelectrophoresis in the beta1-alpha2-globulins. The level of antigen was usually consistent in serum samples drawn repeated from the same patients and volunteers. When stored frozen, the antigen is stable in serum for long periods. The antigen was not identifiable with several known serum globulins with similar electrophoretic mobility. (20 references) (Author abstract)


Schizophrenic patients on a combination therapy of adenosine and nicotinic acid were found to have elevated serum uric acid levels. Oral administration of adenosine alone was also found to significantly increase the serum uric acid levels. Some patients had an almost two-fold increase. Following termination of adenosine therapy, only a few days were needed for return of the serum uric acids to baseline levels. Two trials with 2 g per day of nicotinic acid failed to show any effect of this vitamin upon serum uric acid levels. When given alone, inosine, adenine, and guanosine also elevate serum uric acids over a 6-hour period following drug administration. The level of serum urate may reflect the degree of stress in the schizophrenic, since serum urate usually decreases with antipsychotic therapy. Normal pregnancy is accompanied by a rise in serum uric acid levels that persists for several weeks in the postpartum period. Gilles de la Tourette Disease is characterized by the same phenomenon. The purine high energy phosphate system appears to be secondary to CNS stimulation, but this hypothesis needs more careful study. (28 references) (Author abstract)


This was an effort to repeat in a controlled experiment Maricq’s findings that the normally invisible subpapillary plexus was visible in more familial than nonfamilial schizophrenics. Newly admitted white male schizophrenic veterans were given de-
tailed physical and mental examinations, including a blind evaluation of the relative visibility of the nailfold plexuses. Although the familial schizophrenics had more visible plexuses than the nonfamilial ones, the difference was small. The two categories were compared on 46 variables relating to background, mental status, treatment status, and physical condition. There were almost no positive results. The demonstrated difference in the nailfold plexuses seems to be of little nosological value. (17 references) (Author abstract, modified)


The clinical and endocrine characteristics of the acute ego disorganization that initiated the schizophrenic episodes of four young men are described. Corticosteroid excretion during this phase reached levels 250 percent greater than subsequent recovery values, far exceeding the elevations seen in normals under stress. The patients subsequently recovered along two separate clinical pathways, which were associated with distinctive changes in adrenal cortical activity. The findings suggest neuroendocrine differences between psychotic and neurotic anxiety. (30 references) (Journal abstract, modified)


Clinical observations and discussion of some of the literature are used to suggest that blocking in schizophrenic patients represents a narcissistic withdrawal—a regression to a state in which the preverbal nonvisual memory traces of the nursing experience are cathected. Blocking as it occurs in psychoanalysis can be most easily discerned when it occurs in the middle of a chain of thought; the patient suddenly stops speaking and reacting, and may take a long time in subsequent therapy to break through the block on a certain subject. However, a block is not merely cessation of speech; it is suggested that blocking may involve a loss of interest in the world and retreat to an infantile world by blocking out perceptions of reality. In Freudian terms, a cathectatic shift occurs and libido is withdrawn from the blocked object. Therefore, schizophrenic blocking may be a manifestation of a rapid regression to a blank dream state. This narcissistic withdrawal is fostered by a mother who has related to her child as if he were an inanimate transitional object. Because of her own fears, the child is cathected as part of her; thus, he is only a person when he validates the mother’s perceptions. (25 references) (Journal abstract, modified)


The history of biological psychiatry in America is presented. During the early 19th century, the biological orientation was reflected in approaches to cerebral pathology, theories of localization based on phrenological theory, and concepts of heredity. John P. Gray dominated American psychiatry from 1855 to 1880. He held to a rigid somatic viewpoint, largely denied the significance of any emotional precipitation of insanity, and disregarded the value of moral therapy. At the time of the semicentennial of the American Medico Psychological Association in 1894, the neurologist, S. Weir Mitchell, delivered a devastating address criticizing psychiatry for lack of scientific productiveness in understanding and treating mental disorders. In 1898, Van Gieson reported on the work of the Pathological Institute; he described a comprehensive scientific investigation of insanity involving a number of different disciplines. The schism over dementia praecox was emphasized in Southard’s description: One side regarded schizophrenia as a type of intoxication accompanied by brain damage, and the other viewed it as a dissociative mental disease without structural damage to the brain. Endocrine influences on personality functioning and behavior were first studied in relation to thyroid function. Biological psychiatry received a tremendous impetus with the advent of the modern era of psychopharmacology, which began in 1951 with Laborit’s synthesis of chlorpromazine. (79 references)
yields one spot also and that spot was equivalent to p-tyramine in all paper chromatographic systems. In summation, three pink spots were found—two easily and the last upon increase in the fluid intake. The two spots were found in the urine of all patients, schizophrenic and otherwise, and the third was found in the urine of all persons tested. (16 references)


An experiment reporting evidence of one type of learning impairment in schizophrenic and brain-damaged patients was replicated. In a random sample of patients selected for additional testing, the correlations between performance in the experiment and intelligence test scores and also between performance on a clinical test battery for diagnosing brain injury are reported. (3 references) (Author abstract, modified)

126. Zarcone, Vincent; Gulevich, George; Pivik, Terry; Azuml, Kazuo; and Dement, William. REM deprivation and schizophrenia. Biological Psychiatry, 1(179–184, 1969.

Although studies of basal sleep patterns in schizophrenic patients do not show striking abnormalities, there is great individual variation during rapid-eye-movement (REM) periods. Studies during acute psychotic reactions reveal a marked reduction of REM sleep time. There does not seem to be any compensatory rebound following these periods. Studies of schizophrenic patients and animal studies suggest that lack of rebound may result from discharge of phasic events of the REM state during wakefulness. (15 references)

childhood schizophrenia and autism


Object discrimination and oddity problems were used to explore the tactual and visual learning of retarded and schizophrenic children. Although the schizophrenic children made fewer errors than the retarded children for all stimulus presentations, they consistently made more efficient use of touch than vision in orienting themselves to their environment. Alternate responses to position cues were characteristic of the retarded group. The schizophrenic children—generally free of such primitive responding—gave more flexible responses to stimulus cues and were able to use reward contingencies available in the problems. The data thus indicate that, while the schizophrenic child resembles the normal child in his ability to use information from the environment, his mode of taking in information is deficient. Therefore, the teacher should determine for each child the extent to which he favors tactual senses, employ these senses in providing cues for the child, and gradually substitute visual cues. (19 references) (Author abstract, modified)


Three predictions concerning the exploratory behavior of autistic children were derived from Berlyne's theory of exploration. These predictions related to: latency and level of exploratory responsiveness, modulation of the internal state, and temporal course of exploration. To test these predictions, subjects were exposed to a completely novel object in an otherwise familiar environment, then exposed again on five subsequent occasions. The results showed a remarkably consistent trend in exploration over all subjects. Although the autistic children were initially inhibited, their exploration eventually increased to a level comparable with that of normal subjects of the same age; but this responsiveness also showed a relatively rapid decline. Thus, exploration of novelty was a parabolic function of time. The original predictions received substantial but not entire support. Results were discussed in terms of the interaction between such collative and organismal variables as "novelty" and arousal. (21 references) (Journal abstract, modified)


Clinical and experimental studies of responses to vestibular stimulation in schizophrenia and childhood autism indicate that central vestibular mechanisms may play a fundamental role in the pathogenesis of these conditions. It is suggested that the vestibular system normally regulates the mutual interaction of sensory input and motor output during both rapid-eye-movement (REM) sleep and waking. The disturbances of perception and motility which occur in schizophrenic adults and autistic children are attributed to vestibular dysfunction during these states of consciousness. This failure of adequate vestibular modulation of perception and motility appears to be maturationally determined. (75 references) (Author abstract)

The purpose of this study was to assess systematically some of the generalized social effects of music therapy on autistic children. The authors hypothesized that music therapy is an effective technique for increasing "prosocial behaviors" (i.e., a broad range of behaviors generally considered adaptive, adjustive, and socially acceptable). Five autistic boys, aged 5–7, were evaluated before and after the initiation of music therapy. As measured by the Autism Scale, music therapy techniques were found to be significantly effective in fostering some prosocial behaviors within the research setting. (19 references) (Author abstract, modified)


A total of 280 unduplicated cases of childhood schizophrenia and infantile autism in children aged 12 and under were identified in a 5-year survey of all of Wisconsin’s State, county, and university hospitals and community mental health clinics and of its Children’s Treatment Center and Children’s Diagnostic Center. The sample was subdivided into the following three groups: (A) Classic infantile autism, (B) psychosis of childhood, and (C) psychosis complicated by demonstrable organicity. The prevalence of childhood schizophrenia and infantile autism was 3.1 cases per 10,000 children. Of these cases, 25 percent were group A, 57 percent were group B, and 18 percent were group C. This is a prevalence 1/100 that of mental deficiency and 1/10 that of adult schizophrenia. The three groups were similar in having very high male-female ratios, relatively low familial incidence of major mental illness, and a low incidence of prenatal and perinatal complications. Group A differed from the other groups in terms of higher parental education level, infrequency of first-born males, and older age of mothers. The differences in the groups seem less compelling than the similarities and do not conclusively point toward consideration of early infantile autism as an entity apart from childhood schizophrenia. This sample was compared to the epidemiologic parameters reported in studies elsewhere in the literature. Clues worthy of further study emerge. (21 references) (Author abstract, modified)

cross-cultural


Samples of patients from New York and London public mental hospitals were examined to investigate the reported cross-national difference in the diagnostic ratio of schizophrenia to affective disorder among hospital admissions. The primary source of this difference appeared to be the tendency of New York hospital staffs to diagnose all kind of patients (excluding alcoholics, drug addicts, and patients with organic disorders) as schizophrenic; the diagnosis of affective disorder, on the other hand, is rarely made. In London, however, diagnoses are more evenly distributed between schizophrenia and affective disorder. (Author abstract, modified)

descriptive


In working to promote the general well-being and optimal mental health of the community, the psychiatrist faces such issues as the meaning of "health," the ways in which it can best be achieved, and the clarification of his own position in relation to the sociocultural system in which he works. In his discussion of these issues, the author draws upon his experience as a psychiatric consultant to several government departments in the Netherlands. (3 references) (Author abstract, modified)


There are certain similarities between human minds and programmable computers constructed of unreliable components. Reliability of operation can be improved by duplicating operations and by simultaneously running several versions of the same program. Nevertheless, the risk of interference and interruption is ever present, and this risk can be increased either by an increase in internal noise or by an increase in the vulnerability of the programs themselves. Time pressure, task-irrelevant stress, complexity, and novelty—all reduce the resistance to interference by reducing the redundancy of operations. In humans, interruption of ongoing programs...
produces visceral arousal, and this may, in some cases, add to the disruption of function. Schizophrenic thought disorder can be usefully modeled as the results of interference with the running of programs in the human computer. It is hardly necessary to add that any human suffering from schizophrenia is far more than a "noisy computer." Nevertheless, this model organizes past observations and suggests new areas for inquiry. Using this parallel between human thought and computer operation, we can clarify some things by simply imagining how one of the simpler nonhuman computers might malfunction like a human with schizophrenia. This model takes account of the growing corpus of work on computer models of human thought. Finally, if such a model eventually becomes complex enough to make simple thought experiments chancy yet remains valuable enough to merit further use, then actual computer simulation may provide a feasible technique for future explorations. (74 references) (Author abstract)


Much in psychiatry is a struggle with language or, as psychoanalysts would have it, a struggle to combine the right idea with the proper word and the appropriate effect. This paper attempts to trace the early origins of the concepts of various mental illnesses, particularly schizophrenia, and the growth of a meaningful vocabulary in which to couch these concepts in psychiatric literature. Also considered is the growth of means and terms by which to classify mental illnesses and the various subdivisions of each. Included is a discussion of the theory of diagnosis and of distinctions between diagnosis and classification. (28 references)


The presence and absence of the experimenter was shown to have a significant effect on the psychomotor performance of chronic schizophrenic subjects. By varying the time spent by the experimenter with the subject between trial intervals and intertrial intervals, it was demonstrated that schizophrenics responded to the experimenter's presence as an aversively reinforcing stimulus. Depending on experimental contingencies, psychomotor performance was facilitated or impeded relative to a control group. In all conditions, schizophrenics performed in a surprisingly efficient manner, apparently in an effort to minimize the amount of time the experimenter spent with them. (20 references) (Author abstract, modified)


A series of cases is presented to call attention to certain acute manic episodes which masquerade as paranoid or schizophrenic reactions. A prompt response to lithium carbonate was observed in these cases as well as practical difficulties in maintaining prophylactic treatment. The differential diagnosis of mania is reviewed. With proper safeguards and investigational intent, a therapeutic trial of lithium carbonate seems warranted in such cases. (17 references) (Author abstract)


Territoriality is defined as the characteristic behavior by which an organism lays claim to and defends an area against the encroachment of members of its own species. During development of a one-to-one relationship with a schizophrenic patient, it was discovered that space, or territory, can have significance in a psychiatric setting. Due to the breakdown of the ego and the corresponding loss of the corporeal ego feeling, the schizophrenic loses the sensation of having physical limits. Hence, in the case history cited, the patient repeatedly made unsuccessful attempts to establish a defined spatial distance from the therapist. At times she would come as close as 1½-2½ feet away; at other times she would move back 2½-4 feet. When she felt threatened by intrusions into her "territory," she would (1) shift her position toward the far side of the chair, (2) Interpose a barrier (her purse) between herself and the therapist, (3) move her chair farther away, and (4) finally leave the area entirely to get a drink of water or use the bathroom. The interposition of a table during later sessions seemed to decrease her anxiety level and to facilitate communication. Eventually, as the patient's trust deepened, the therapist was able to use the therapeutic technique of touch, thereby making the patient aware of her physical boundaries and helping her to formulate her sense of identity. (16 references)
This essay considers the conditions and factors involved in doing research in schizophrenia. The goals of research can be to: help individual patients, understand etiology, further prevention, or understand the pathological process and thereby elucidate normal processes. The complexity of schizophrenia research generally calls for study by a group of investigators—preferably from several disciplines; this approach can be concurrent, coordinated, or integrated, and each type of study has special problems. The problem of what to research is determined fundamentally by the background and perspicacity of the investigator. How one approaches the schizophrenic in research encompasses: (1) the background for the investigator’s approach, including the time scale (cross-sectional vs. longitudinal), and the method and modes of approach; (2) background status of subject; (3) conditions of stimulation, including the quality, intensity, frequency of stimuli, and context of presentation, as well as the investigator’s instructions; and (4) the subject’s response process—his receptiveness and cooperation. Clarification is needed of the issues underlying the schizophrenic subject’s consent, privacy, and integrity. When to do research should be partly determined by subjects’ internal rhythms and such extrinsic factors as temporary fatigue and indisposition. Research conducted in environments that are less controlled than hospital wards call for new techniques to assure rigor of conditions. Problems of selecting subjects include the many pitfalls of diagnosing and categorizing patients; recommendations for dealing with these are made. In reviewing the state of research in schizophrenia, the author concludes that although only the beginnings of a unified picture will be attained in the near future, tolerance is needed for all critical and honest efforts. (29 references)

epidemiologic


From a consecutive series of 123 schizophrenic admissions, the first 50 patients to experience an acute onset or relapse within 3 months of admission were selected for study. They and their relatives were interviewed concerning the occurrence during the 12 weeks prior to onset of events which might be considered potentially disturbing. Sixty percent of the patients had experienced at least one such event during the 3 weeks prior to onset, and 23 percent had had a disturbing experience during the three earlier 3-week periods. There were no significant differences by age, sex, and diagnostic category between the 50 patients included in and the 73 patients excluded from the study. Within the 50 patients studied there were no differences between those who had or had not experienced any event in the 3 weeks prior to relapse, except for certain depressive preoccupations in the former group of patients. Thirteen patients had stopped or reduced their phenothiazine medication. Results of the study suggest that both life events and reducing or stopping phenothiazines are precipitants of acute schizophrenia and that symptomatology is largely unrelated to these precipitants. (23 references) (Author abstract, modified)


A 4-year followup study of the work performance ratings of 45 schizophrenic and 92 psychoneurotic males, compared with those of controls matched for age, sex, education, and specific job description, has indicated the following: With the passage of time, schizophrenic subjects have shown less job mobility than have controls (29 percent vs. 47 percent promotions). Medical retirement accounts for 15 percent of terminations, with the turnover rate for all reasons roughly doubled in the schizophrenic group. Psychoneurotics have lagged to a lesser extent in terms of promotions, but their medical retirement and general turnover rate is comparatively high (15 percent vs. 3 percent). The psychoneurotic subjects who were still working within the companies at followup have continued to earn total work scores essentially commensurate with those of their controls. The performance ratings of the schizophrenics, below average in the original 1963 study, were still low in the followup periods of 1965 and 1967, despite the dropping out of some of their presumably more impaired members in the intervening time. While total work scores were found to be depressed in both former patient groups, they had only a few more “inadequate” and a few less “superior” performers when job ratings were scored in terms of average expectancy by vocational placement. Consumption of sick leave for 1967 was higher in both patient groups than in their respective controls. During the same year, utilization of the dispensary systems in the industrial
settings for medical reasons was relatively equal among both former patient groups and their controls. Likewise, the frequency of on-the-job injuries during this period was evenly distributed, with all injuries minor in character. (11 references) (Author abstract, modified)


Of Menninger Clinic patients under 25, those with schizophrenic reactions were more likely than other patients to make suicide attempts and less likely to come to the hospital following socially unacceptable behavior. When the factor of different diagnoses is eliminated, the differences which remain are just those of age and social class. The high incidence of suicide attempts in young upper-class patients is particularly interesting in view of the fact that this form of violence or aggression is not coupled with a correspondingly high incidence of violence directed outward. This finding, taken with the finding of a lower prevalence of socially unacceptable behavior in the young Menninger patients with schizophrenic reactions and the higher prevalence of Menninger patients with schizophrenic reactions admitted without a “last-straw” aggressive incident immediately prior to hospitalization, suggests that social class may have something to do with the tendency to direct aggression toward the self rather than outward, to cause less disturbance to society through illness, and to come for treatment voluntarily. (8 references) (Author abstract, modified)


A review of the literature on the behavioral antecedents of adult schizophrenia reveals that all of the studies are retrospective. The findings of the studies reviewed strongly suggest that schizophrenic patients should be divided into two major groups—those who experienced difficulty in childhood prior to the onset of the overt schizophrenic illness and those who did not. Any diagnostic scheme for schizophrenic disorders cannot ignore this dichotomy, which, in conjunction with traditional diagnostic differentiations emphasizing symptomatology and subsequent course, will be of importance not only for research but in clinical practice as well. (63 references)


A survey of all deaf-mutes who on a specific day were inmates of every psychiatric department and hospital for mental diseases in Denmark revealed that this population comprised 1 percent of all the deaf-mutes in the country. Of these, about 0.2 percent were hospitalized under the diagnosis of schizophrenia. Organically conditioned psychoses were found in approximately 10 times as many deaf-mutes as in others, amounting to 0.2 percent of all deaf-mutes; half of these had retinitis pigmentosa with progressive loss of vision. “Atypical psychoses” (including unspecific psychoses) comprised 0.27 percent of all deaf-mutes; their genesis often seems to be a combination of several factors, one of which is an organic, cerebral component, but in several cases there is also a predisposition to schizophrenia and/or mental deficiency. When a deaf-mute suffering from mental disease is admitted to a hospital, he has no real chance of making himself understood; thus, the tendency to mutual misunderstandings and to explosive behavior is increased. The centralization of the psychiatric treatment of deaf-mutes is not effective throughout the country, and there is a definite need for making it so. Only thus is there a reasonable possibility of correctly interpreting explosive behavior, pseudoparanoïd misunderstandings, “hallucinated” behavior, and psychogenic psychoses provoked by misunderstandings and the lack of a means of communication; only thus may a rational psychiatric treatment become possible. This cross-sectional study is marked by many prolonged hospitalizations, and these patients’ personalities bear the stamp of institutional life, together with the psychic changes produced by a very prolonged isolation from meaningful communications with others. (43 references) (Author abstract, modified)

family


This study analyzed whether specific psychogenic influences are reliably associated with different diagnostic syndromes. Three distinct approaches were taken: (1) mothers and fathers of schizophrenic, neurotic, asthmatic, and congenitally ill children were compared on a number of psychological dimensions using an abridged version of the California Q-set; (2) the empirically derived descriptions
of the actual mothers in the schizophrenic and asthmatic groups were compared to theoretically derived descriptions of schizophrenogenic and asthmagenic mothers developed by clinicians; (3) factor-analytic techniques were used to assess the extent to which results of this study could be interpreted as manifestations of generalized, undifferentiated psychopathology rather than as evidence for specific psychogenic influences. The results clearly showed a relationship between the degree of parental psychopathology and the presence of psychological symptoms in the child. The degree of relationship can be stated explicitly by correlating diagnostic syndromes with psychopathology. This study's failure to find distinguishing characteristics among more closely related diagnostic syndromes (neurotic and schizophrenic, high allergic potential and congenital) may be a partial function of the instruments and methods of quantification used. Actual observations of parental interactions with the child might prove to be a more productive avenue to the differential study of various childhood disorders than reliance solely upon psychological tests. (12 references) (Author abstract, modified)


Schizophrenic patients (divided according to good or poor premorbid status), nonschizophrenic psychiatric patients, and the parents of each of these male patients were rated for anxiety both before and during a difficult family interaction. Two techniques which measure anxiety on the basis of speech were employed. Certain of the results obtained (e.g., that poor premorbid schizophrenics were the most anxious of the patients) are consistent with general beliefs and prior research. Most of the results, however, present a picture of the schizophrenic patient and his parents dramatically different from that suggested by most theories and research findings. The parents, for example, did not appear to upset the patient, even when their behavior was quite noxious. Therefore, if the family plays a role in schizophrenia, the present findings suggest that it is a role very different from that which has generally been assigned to it. (33 references) (Author abstract, modified)


The task of communicating the essential attributes of common household objects from one person to another was explored as a test of communication between members of families of schizophrenic patients. A group of six families, each consisting of a mother, father, schizophrenic patient, and nonschizophrenic sibling, was compared with a control group of six normal families. The verbal interaction of all the various pairings within each family was scored according to the following categories: Misidentification of the object, inappropriate conceptualization, and impaired focal attention. In every category the families of the schizophrenic patients performed significantly more poorly than the families of normal controls. A comparison of the various pairings within the families revealed that there were no significant differences between parents' communication to the schizophrenic patient and to his nonschizophrenic sibling. It is tentatively suggested that object misidentification in this setting may provide a relatively simple indicator of impaired communication within schizophrenic families. (17 references) (Author abstract, modified)


The psychiatric statuses of 64 sibs of 46 schizophrenic patients, 104 sibs of 68 personality-disordered patients, and 16 sibs of 13 index cases with psychoneurotic and affective disorders were compared. Results indicated that the sibs of schizophrenic patients did not differ from those of nonschizophrenic patients in terms of overall incidence of abnormality. Significantly more sibs of schizophrenics (8 percent) were, however, diagnosed schizophrenic than were sibs of nonschizophrenics (1 percent), and sibs of schizophrenic index cases had significantly more often been hospitalized for psychiatric illness than had sibs of nonschizophrenics. There was no indication that same-sexed sibs of schizophrenic patients were more frequently or more severely abnormal than their opposite-sexed sibs. For the personality-disordered group, however, brothers of male index cases were rated abnormal significantly more often than were sisters. (9 references) (Author abstract, modified)


Fourteen normal and 14 disturbed family triads at-
tempted to reach consensual decisions about problem situations over which they had initially been in complete disagreement. A series of outcome and process measures delineating their differential power structures was formulated. Disturbed families were impaired in their ability to reach group decisions, shared relatively equally among members in the frequency of decisions “won” and amount of support received, were impaired in coalition formation, and showed weakness in the (parental) relationship having the greatest potential for unitary action. Normal families, on the other hand, were able to form coalitions and reach mutually acceptable solutions; moreover, a clear-cut power structure emerged in which the father was in ascendency, the mother ranked second, and the child last. (17 references) (Author abstract, modified)


The results of a study of interactional patterns in families of schizophrenics are reported. Symmetry and complementarity, concepts proposed by Bateson, describe patterns of similarity and dissimilarity between the messages emitted by participants in the interactional process. In studying symmetry-complementarity patterns in a family-group interactional process, it is possible to distinguish certain other phenomena, such as “the struggle for power and control,” manipulation of coalitions, and several additional interactional traits which could positively or negatively affect the development of identity in adolescents. When these variables were explored in the interaction of a sample of father-mother-schizophrenic son triads and in a control sample of father-mother-normal son triads, several differential traits were detected in the schizophrenic families which suggested hypotheses concerning the pathogenicity of some of the observed interactional traits in the onset or perpetuation of schizophrenia. (7 references) (Author abstract, modified)


As in many other disciplines, there is an increasing conviction in psychiatry that the phenomena under study could be most fruitfully observed in the wider context in which they naturally occur, rather than in an artificial isolation. This is a departure from the traditional monadic viewpoint, which is mainly concerned with the patient’s intrapsychic dynamics and only secondarily with his behavior’s effect on his immediate human environment. Suggested as early as 1877 in the famous folie-à-deux study, the interpersonal approach was revived in 1953 by Jackson, who postulated the concept of family homeostasis and conceived of the family as an interpersonal, interacting system which maintains its stability by means of feedback mechanisms. Seen in this perspective, emotional and mental disturbances are considered the outcome of intrafamilial communication, as opposed to the illness of one given family member. Two patterns of communication frequently present in disturbed families are discussed, and three hypotheses regarding specific forms of pathogenesis in the families of schizophrenics, of depressed patients, and of delinquents are offered. (10 references) (Author abstract, modified)


Patterns of parent-child interactional behavior were assessed using 240 Thematic Apperception Test (TAT) stories told by parents of 10 schizophrenics (S), 10 delinquents (D), and 10 “normals” (N). A modified content analysis was applied to stories dealing with parent-child plots. Common underlying factors contributing to similar story qualities were abstracted into higher order classes of story behavior, and the following three modal behavior categories were defined: (1) Personally involved, child-centered, and flexible interactions; (2) impersonally involved, superficial interactions; and (3) overinvolved, parent-centered interactions. Blind ratings of the stories by categories 1, 2, and 3 significantly and reliably differentiated the three (N, D, S) parental groups. Blind ratings of another series of TAT stories told by 20 mothers of schizophrenic children and 20 mothers of normal children using the National Institute of Mental Health method significantly differentiated the two parental groups. Processes that may have determined the different patterns of narrated parent-child interactions are considered. (22 references) (Author abstract, modified)
genetics


This study compared the birth weights of children of schizophrenic women with national samples matched on socioeconomic level and race. It also compared the birth weights of these children with those of children of schizophrenic fathers. As both socioeconomic level and schizophrenia itself were controlled in this comparison, any differences found between the two groups would have indicated the part played by prenatal environment rather than genetics. Results, however, showed nothing abnormal about the birth weights of children born to schizophrenic mothers as compared to the matched national sample; nor did the children of schizophrenic women weigh less at birth than the children of schizophrenic men. (10 references)


Twenty-five-year-old monozygotic twins discordant for schizophrenia are described. Biochemical and other findings were for the most part similar. The index was generally the lighter at birth, the second-born, and had the more abnormal EEG. Skull X-rays showed a number of differences. Upbringing and home environment were consistently unsatisfactory. Both twins received thyroid extract during the neonatal period. The possible effect of the thyroid extract on the development of the more immature twin is discussed. (10 references)

prognosis


While contributing relatively little to knowledge of schizophrenia's etiology, studies of the influence of social factors on the incidence and course of this disorder have added considerably to the understanding of its natural history. Followup studies of schizophrenic patients in remission have identified a number of factors thought to contribute significantly to these patients' prognoses; these include: control of symptoms by appropriate medication, help in finding suitable employment, and support from friends or relatives which does not entail the kind of highly charged emotional interactions with which the patient finds it impossible to cope. (19 references) (Author abstract, modified)


This study addressed itself to the controversy over whether magnitude of mecholyl response is related to premorbid characteristics and/or long-term outcome in nonchronic schizophrenics. In a group of 46 schizophrenics, ratings of premorbid asocial functioning were correlated with outcome. Both of these patient characteristics, however, were independent of the magnitude of a mecholyl-induced drop in systolic blood pressure. Similar results were obtained when the schizophrenic sample was combined with 33 nonschizophrenic patients, which would seem to suggest that diagnostic variation among studies cannot account for contradictory results regarding the relationship between mecholyl response and either process-reactive schizophrenia or long-term outcome. (27 references) (Author abstract, modified)


A statistical analysis concludes that the proportion of a mental hospital's population drawn from a Midland county and city has been constant for many years, that the mean stay of each case in this hospital has been reduced in the last 40 years to one-sixth of its former duration, and that rates of departure are subject to natural mathematical law, are logarithmic, and can well be measured by the concept of the "half time" in the hospital. (19 references) (Author abstract, modified)

psychological theory


Results of a longitudinal study of changes in 47 chronic schizophrenics' associative performance
over a 10-year period are reported. Significant increases in associations of good quality and decreases in echolalic responses and wrong reproductions were found. A tendency toward improvement was also noted in the number of primitive or incoherent associations and in reaction time. Incidence of multiword responses, however, remained about the same as before. Length of hospitalization and age at first admission did not correlate with individual measures of performance, but chronologically age was positively and significantly correlated with increase in number of echolalic responses and in mean reaction time. Although improvement was most marked for the paranoid schizophrenics, there was a general tendency toward improvement within the catatonic and hebephrenic groups as well. Patients with more than 9 years of schooling improved more than patients who had ended their education at that level. Improvement in performance was also related to extensive use of psychopharmacological agents in the test-retest period. (6 references) (Author abstract, modified)


The subjects in this study were 80 hospitalized white male chronic schizophrenic patients, divided by paranoid or nonparanoid status and good or poor premorbid adjustment and matched for age and education. All subjects were administered a sorting task and a paired-associates-learning task, both of which included a built-in associative interference factor. Results supported the associative interference theory concerning psychological deficit in schizophrenia. This was more pronounced in the case of the sorting task than the paired-associates-learning task, perhaps because the latter is confounded by a strong memory factor. The present findings also indicate that paranoid and premorbid status interactively affect performance. (14 references) (Author abstract, modified)


Ten hospitalized schizophrenic and 10 normal control female subjects were recorded on film as they recounted three personal experiences which had made them happy, sad, and angry. Judges were first asked to identify the affective themes of these stories from typewritten transcripts and then from nonverbal expressive behavior observed in silently presented motion pictures. As indicated by the 96 percent accuracy with which four judges independently identified the affective themes of the type-written stories, the subjects understood and cooperated with the experimental instructions. The schizophrenics' verbal stories were rated lower in affective intensity than those of the controls, but this difference was not significant and the ranges of intensity were similar. Although using fewer words, schizophrenics took as much time as did controls in telling their stories. The number of words and the amount of time expended were correlated in controls' stories but not in those of the schizophrenics. There was significant interagreement among judges' ratings of the affective themes in the silently presented films. The intensity with which controls expressed their affect in words was correlated with the accuracy with which the affective themes of the same stories were judged by 34 raters from nonverbal cues in the silent movie; this relationship did not appear in the affective communications of the schizophrenic women. Accuracy in identifying the nonverbal affective themes was not associated with story length, ratings of likability, or length of hospitalization. The raters were more accurate in judging the nonverbal messages of the control than of the schizophrenic subjects. Schizophrenics, who were judged to be less likable and understandable than controls, appeared to have most difficulty in expressing happiness verbally and anger nonverbally. (16 references) (Author abstract, modified)


In an 8-week study, the sequential effects of withdrawal and readministration of phenothiazine were evaluated in 74 chronic schizophrenic patients (aged 24–54), all of whom had been on some one phenothiazine derivative for at least the previous 6 months. For the first 4 weeks, all patients were on placebo, while during the next 4 weeks, half were on placebo and half were on thioridazine. Patients were assessed initially using the standardized Spitzler et al. Mental Status Schedule (MSS) and the Cattell 16 PF test. In addition, two or three 5-minute verbal samples were obtained from each patient in the
week prior to drug withdrawal in order to assess levels of social alienation, personal disorganization, hostility, and anxiety by the Gottschalk-Gleser method. Additional verbal samples were obtained twice weekly for the next 8 weeks, and MSS interviews were obtained at the end of 4 and 8 weeks. The theoretical and practical implications of the results are discussed. (34 references) (Author abstract, modified)


The first phase of a research program directed at the classification into units of the text of a psychiatric interview is described. A unit, also called an assertion, is defined on the basis of a finite verb fulcrum. As part of this general program, statistics were gathered on the use of various assertion introducers and forms of the finite verb, and these were then analyzed in relation to the patients' clinical features. The ability of such statistics to discriminate between diagnostic groups was compared with the discriminating power of such general style features as total number of spoken words, frequency of certain key words, and presence of specific paralinguistic phenomena. As a group the syntactic scores were much more sensitive discriminators of diagnostic category than were the general style indices. Particularly sensitive discriminators were the frequency of the finite verb's perfect phase form, of qualifying subordinators as assertion introducers, of the passive voice, and of occurrence of formally defined verbal categories called the "state" verb and the "achievement" verb. (17 references) (Author abstract, modified)


Narcotic users who comprised two distinct diagnostic groups—sociopathic and schizotypic—as defined by Minnesota Multiphasic Personality Inventory (MMPI) profiles, and a chronic schizophrenic group (also defined by the MMPI) were selected to cross-validate a taxonomy of trait terms designed to measure high, medium, and low conflict from Emotion Profile Index (EPI) responses. The sensitivity of the EPI conflict scales was not confirmed in these samples which differed significantly with regard to type and severity of maladjustment. Implications of other data were discussed within the rubric of the multifactor analytic theory of emotion, and implications for possible future use of the EPI were also considered. (11 references) (Author abstract, modified)


The Reltan-Halstead Organic Test Battery has proved of little practical value in general psychiatric populations because it fails to separate organically brain-damaged patients from schizophrenics. An attempt was made to improve such discrimination through the application of response-contingent censure for poor performance during administration of one test from this battery, the Tactile Performance Test (TPT). Subjects were 48 hospitalized patients diagnosed schizophrenic reaction or brain syndrome. The TPT was administered to half of each group under standard administration conditions and to the remainder under conditions of response-contingent censure. Under the latter condition, there was a significant difference in performance by the two groups, with fewer schizophrenics scoring within the brain-damaged range. (5 references) (Author abstract, modified)


Standardized mental status interviews of 119 acute psychiatric patients revealed numerous difficulties in rating clear-cut presence or absence of delusions and hallucinations. The patients described such a variety of perceptual and ideational experiences that in many cases a simple "presence" or "absence" rating would make experiences seem much more distinct than they actually were. Since it was so difficult to dichotomize ideational and perceptual aberrations into categories of hallucinations and delusions on the one hand and "normal" on the other, the concept of schizophrenia as a discrete disorder for which these symptoms are often considered diagnostic is also brought into question. It might be both more accurate and more useful to conceptualize hallucinations and delusions as points on continua of function and to conceptualize schizophrenia similarly as representing a point or points on continua of function. The suggested parameters of these continua of function are: the degree of a patient's conviction of the objective reality of a bizarre experience, the degree of direct
cultural or stimulus determinants of an experience, the amount of time spent preoccupied with the experience, and the degree of implausibility of an experience. (9 references) (Author abstract)

treatment


Modern milieu therapy represents a significant advance over the late 18th century moral treatment methods of Tuke and Pinel. Although moral treatment represented an advance over then existing methods, its results were achieved by adopting the simple humanistic principle that treating patients as responsible human beings is effective in getting them to act that way. But in addition to upholding these humane values, modern milieu therapy possesses an effective technology for promoting behavioral modification. It should not be regarded as one among other specific treatment techniques but, rather, as a general method for effectively providing these specific techniques. The general method involves constructing a stable, coherent social organization which provides an integrated, extensive treatment context. Its aim is to make certain that a patient’s every social contact and his every treatment experience are synergistically applied towards realistic, specific therapeutic goals. These goals are learning to control or set limits on the main kinds of pathological behavior (destructiveness, disorganization, deviancy, dysphoria, and dependency), and to develop basic psychosocial skills (orientation, assertion, occupation, and recreation). Evaluating milieu therapy involves determining how well it accomplishes these goals of providing limits and skills. Its organizational structure can, of course, also be evaluated from other than a therapeutic viewpoint—for example, in terms of its quality as a social system. (21 references) (Author abstract, modified)


In a public mental hospital, the patient is likely to express his symptoms through a wide range of demands which form a meaningful pattern. No serious attempt to get to know what the patient’s problem is, however, can take place unless the psychoanalyst has a function in the formal administrative structure of the hospital and bases his practice on a constant analysis of what is going on there. The so-called neutrality of the private psychoanalyst would be challenged in such a situation, since the “institutional” psychoanalyst would be situated, in his relations to the patient, in both a political and juridical field. (Author abstract, modified)


During the past 10 years, 110 patients, mostly chronic schizophrenics, who had failed to respond to various phenothiazines were treated with monoamine oxidase inhibitors (MAOIs); among those used were phenylisopropylhydrazine, pargyline, MO–1255, and tranylcypromine in combination with chlorpromazine. Two-thirds of these patients responded favorably to this drug regimen and were discharged from the hospital. On the basis of the collected data and theoretical considerations, it is concluded that the MAOI–chlorpromazine combination is relatively safe and clinically useful. (33 references) (Author abstract, modified)


A project utilizing art therapy to modify psychiatric patients’ behavior is described. Originally begun for a small group of patients at St. Joseph Hospital in Chicago, the project was soon expanded to include any patient who desired to participate, student nurses, and members of other departments. Because everyone in the room paints, the session has the air of a group project rather than a therapy session for sick people. It is emphasized to the patients that they are there to spend a relaxing and pleasant time together and are not expected to produce works of art. Patients who are either unresponsive or overactive or who show other gross behavioral deviations are invited to participate in a smaller group where they can receive individualized attention. Although most of the participants appear to have benefited from the sessions, any hypotheses drawn from this experience are only tentative and should be validated in a more structured study. The following 10 therapeutic effects of art therapy are discussed in a commentary which accompanies the foregoing article: Giving encouragement by not permitting patients to fail, developing a sense of achievement; providing experience in creative decision making, giving a feeling of belonging, creating opportunity for self-discovery, mobilizing resources, developing cooperation, expanding horizons, opening communications, and
helping patients learn to act with both spontaneity and organization.


Brief training in both reinforcement and traditional psychotherapeutic techniques was given to 22 student nurses. Each nurse saw two patients 1 hour per day for 7 weeks, using reinforcement with one patient and traditional techniques with the other. Each pair of subjects seen by the nurse-therapists had been matched on the Hospital Adjustment Scale (HAS) before treatment. Post-treatment HAS scores and improvement ratings by Knight's criteria showed significant improvement for reinforcement but not for traditional techniques. Patients' estimates of self-concept before and after treatment showed improvement with both techniques. (13 references) (Author abstract, modified)


The purpose of this study was to observe the effects of the social systems within psychiatric wards on patients, especially chronic schizophrenics. An attempt was made to determine the modes of adaptation used by chronic schizophrenics when confronted with the special organization of the ward system, which is itself deviant, and the way in which the ward system copes with these modes in maintaining its own stability. Five mechanisms operating within the personality system of the schizophrenic—distorted language patterning, fear patterning, flight patterning, injury patterning, and role loss patterning—are countered by five reciprocal social system mechanisms—rituals of degradation, mechanisms that differentiate status and establish social distance, rigid social controls, insulation from the demands of other institutional systems, and constriction of role set. Three types of patient modal adaptation were observed: the "stormy rebel," "quiet conformist," and "autistic recluse." Findings were that, from being therapeutic, the wards are actually antitherapeutic; they not only fail to undo early personality damage, but instead act to reinforce schizophrenic adaptation. This is attributed to the incompatibility of the demands of individual patients with a ward system that is limited in responsiveness by its structure, culture, and insensitivity to the patients' needs. (3 references)


The hypothesis that many ward patients do not actually require a tranquilizing drug but are simply reacting to the ward milieu created by more disturbed patients was investigated on two experimental wards. Using the placebo technique in a simulated "outpatient-clinic" setting, this hypothesis was shown to be valid; that is, when the most disturbed patients were tranquilized effectively, the others could be carried on little or no medication. (6 references) (Author abstract, modified)


Eighteen weeks after six severely and chronically ill young schizophrenic women began to participate in a therapeutic experience marked by the spontaneous appearance and elaboration of a group fantasy of eating, all six had been placed on outpatient status. The clinical improvement attained in a relatively short period cannot definitely be attributed to the shared fantasy. Subjective observation suggests, however, that symbolic gratification of basic Instinctual needs can be effected in groups through the technique of group fantasy. Such gratification may result in clinical improvement in patients refractory to other modes of treatment. (20 references)


A day program is described in which staff-patient relationships are altered such that patients make most decisions and help one another become independent. In the process, self-esteem and self-confidence are elevated, leading to good community adjustment. (16 references) (Author abstract, modified)


As characterized by general systems theory, an open system interacts dynamically with its environment, takes in elements and puts out products, maintains a homeostatic steady state, achieves an independent state of its own, and develops increasingly complex states of organization. The therapeutic milieu consists of people who live and...
work on the psychiatric unit 24 hours a day (patients) and others who work and live on the unit 8 hours a day (staff). Clinical examples and vignettes from milieu experiences on a unit at the Illinois State Psychiatric Institute demonstrate how the therapeutic milieu can be conceptualized in terms of general systems theory. Whether or not such dynamic processes can be measured in the same manner as can a cell's metabolism is at this point speculative, but it is hoped that some form of mathematical measurement can eventually be brought to the interactions of the therapeutic milieu. (13 references) (Author abstract, modified)


The issue of involuntary commitment represents a conflict between the civil rights and liberties of the individual on the one hand and the rights of society on the other. In most cases, a person is committed because his family or community deems his "peculiar" behavior either threatening or unacceptable and intolerable within the social context. It is questioned whether the great majority of those who are involuntarily committed actually need treatment; indeed, it is held here that involuntary commitment to a mental hospital often does more psychological harm than good. The article discusses alternative measures and procedures which would provide better protection for the rights of both the individual and society. Among the programs suggested are: commitment by judicial hearing, abolition of involuntary commitment except in emergency situations, alternative services and types of treatment, voluntary commitment, and establishment of public sociopsychological training, treatment, and rehabilitation centers for people who have social and/or emotional problems but who are not "mentally ill." A detailed plan for implementation of the last suggestion is presented, including plans for studies to determine the effectiveness of such a program. It is admitted that this alternative has its potential drawbacks, but in the light of the urgent need for alternative solutions it is urged that the program be seriously considered. (15 references) (Author abstract)


Feedback on patterns of social interaction was given to chronic schizophrenic patients at their weekly ward community meetings for a period of 4 weeks. This feedback produced a significant decrement in aloneness (from an initial level of 80 percent to 72 percent) relative to the initial pre-feedback period. Isolation had returned to the initial pre-feedback level 6 months later at which time a replication of the feedback procedures again produced a similar aloneness decrement. No differences were observed between drug (phenothiazine) and placebo patients. (15 references) (Author abstract)


The demonstration that high doses of d-cycloserine, an accepted therapeutic agent in the treatment of pulmonary tuberculosis, induce neurotoxic effects and behavioral changes suggested its therapeutic trial in a group of long-term, severely ill psychiatric patients. D-cycloserine was given to 10 patients in dosages from 1 to 2 g. per day for from 18 days to 16 weeks (mean, 50 days). Increases in psychotic symptoms, psychomotor excitement, and confusion and alterations of mood, affect, and vigilance were the principal behavioral changes observed. Seizures and muscular twitching occurred in two patients. While the therapeutic benefits of d-cycloserine treatment alone were poor, subsequent treatment with active psychotropic drugs resulted in marked behavioral improvement; of the 10 patients, six were discharged and three were working in the hospital 6 months after study. This sequence of treatments (activation followed by psychotropic drug treatment) has been described as "symptom-provocation" therapy. Blood levels of d-cycloserine were related to the daily dosage and inversely related to weight. Blood levels below 45 mcg./ml. were accompanied by few behavioral changes, while levels above 65 mcg./ml. were accompanied by neurotoxic phenomena, suggesting a symptom-provocation range for d-cycloserine between 45 and 65 mcg./ml. The EEG patterns with d-cycloserine were those of desynchronization, increased fast frequencies, and heightened variability. These patterns are similar to those seen with other compounds which induce behavioral alerting, heightened affect, and (in higher than therapeutic doses) hallucinations, delusions, and excitement. D-cycloserine is an effective agent for symptom provocation with the unique advantage that an effective range can be defined by simple blood-level estimations. (23 references) (Author abstract, modified)

The main trends in the treatment of psychoses by psychoanalysis during the past 50 years are discussed. This review of the development of psychoanalysis suggests that Freud's hope that some approach to the treatment of psychosis might be possible is now justified. (46 references) (Author abstract, modified)


The Emergency Treatment Unit was established to develop a model for brief intensive intervention as an alternative to long-term hospitalization. The unit, located in the Connecticut Mental Health Center, provides 3 to 5 days of hospital care followed by 30 days of outpatient care. It treats primarily lower socioeconomic class patients admitted from the emergency room of the Yale-New Haven Hospital. Specific techniques which promote rapid reintegration include the use of time-limited contracts, intensive daily involvement with multiple therapists, maximization of autonomy, and an emphasis on adaptive issues. In addition, extensive use is made of tranquilizers, individual dyadic therapy, milieu therapy, and family or marital therapy where indicated. Of those admitted, 82 percent are able to return to the community after a 3-day inpatient stay while 18 percent require transfer to longer-term treatment settings. A followup study found an additional 19 percent of admissions were readmitted for longer-term care within a year of discharge. Thus, 63 percent of admissions were neither transferred for longer-term care nor rehospitalized. This compared favorably with other recent followup studies. These data suggest that brief intensive hospital care provides an effective alternative to long-term hospitalization for a wide variety of psychiatric disorders. (15 references) (Author abstract)


Twenty chronic psychotic patients, matched for age, education, sex, length of hospitalization, and diagnosis, were divided into treatment (n = 13) and control (n = 7) groups. Each patient in the treatment group had a nonprofessional therapist assigned to him for one session a week. Seven of the 13 therapists were given an optimistic appraisal of their chances of helping the patient, and the remaining six were given a pessimistic, guarded outlook. Upon termination of the 5-month program, the treatment group showed significantly more improvement than the control group in their interactions with aides and in the quantity and quality of their social behavior (less verbal hostility and withdrawal and better sense of humor). Five of the treatment group patients were discharged from the hospital, while none of the control group left. The therapists' initial outlook made no difference. (7 references) (Author abstract, modified)