coronary heart disease and for Behavior Pattern Type A or B. Psychological tests included MMPI, California Psychological Inventory, 16 Cattell PF, Gough Adjective Check List (ACL), Thurstone Temperament Schedule (TTS). Heritability at statistically significant levels was found only for scales of TTS.
Twelve scales of ACL and five scales of TTS showed significant correlations with Behavior Pattern Type A-B as well as with several risk factors, including blood pressure and serum lipids. Multiple regression equations were constructed for those characteristics accounting for significant and unique portions of the total variance of Type A-B Behavior. The use of certain scales of ACL and TTS may provide a new questionnaire for screening purposes in the assessment of Behavior Pattern Type A-B.

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3. *Mental Disorders*

CHARACTERISTICS OF THE TWINS OF SCHIZOPHRENICS AS FALLIBLE INDICATORS OF SCHIZOIDIA

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Further advances in research into the etiology of schizophrenia will depend on the identification of an unambiguous indicator of the genotype associated with the development of schizophrenia. Such an indicator would permit accurate assessment of the relatives of probands as " affected " or not, so that the data generated in twin and family studies could be tested for the best fit to various genetic models that have been proposed. Schizoidia or schizoid personality has been considered by clinicians to be such an indicator, but it has been beset by semantic and logical difficulties. Most troublesome has been the extent to which the concept implies (merely) a phenotypic resemblance to schizophrenia, or a genotypic connection with it, or, as Essen-Möller (1946) believed, both.
We present four different but overlapping meanings for the concept of schizoidia, in an effort to clarify the semantics and logic involved. Following Popper's notions about the testability and refutability of theories, the authors, identified with both monogenic and polygenic theories, apply the definitions to their first-hand observations of the cotwins in the Maudsley-Bethlem Schizophrenic Twin Study. Pushing the concept to its limit, 91% of 22 MZ pairs and 45% of 33 DZ pairs contained " disordered " cotwins. In the absence of objective criteria for schizoidia and the consequent lack of epidemiological or family studies of such conditions, we cannot claim that we have defined an improved phenotype for population genetic studies. Our hopes lie with a less fallible endophenotypic biological indicator.

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ETIOLOGICAL IMPLICATIONS OF STUDIES OF IDENTICAL TWINS DISCORDANT FOR SCHIZOPHRENIA

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Our model of the development of schizophrenia in one twin, and not the other, emphasizes differential parental interaction with the schizophrenic-to-be, lack of cognitive and communication clarity, and contradictory and incompatible role expectation. Initially, the constitutionally (or perhaps neurologically) less favored twin is " selected " to be the dependent member of the twinship. This continuing role as the " weak " twin is eventually incompatible with the kinds of demands for accomplishment and independence he encounters in the home, school, or community. Because

of his identification with a communicationally disordered parent, he lacks the ability to think clearly, comprehend communicate and solve problems in an increasingly complex world.
Thus, " breakdowns " occur at times of greatest stress (e.g., separation from home or cotwin, death of a grandparent, etc.) when his limited resources are overtaxed to the point of disorganization. By way of contrast, the cotwin has many more cognitive, communicational, and problem-solving skills available which, if stressed only " normally ", are sufficient to carry him over life's hurdles.

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NOSOLOGICAL CLASSIFICATION OF ENDOGENOUS PSYCHOSES VIEWED FROM TWIN SURVEY

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In our study, we dealt with 12 pairs of MZ twins discordant for schizophrenia that we have collected not systematically. We divided all of the index cases into typical and atypical schizophrenia, to begin with, and compared the clinical features of their non-psychotic cotwins. Consequently, we found the distinct differences between these two groups in regard, not only to personality traits, but also to clinical features of neurotic symptoms of the cotwins. In other words, there are considerable differences concerning clinical features (phenotype) between typical schizophrenia and atypical schizophrenia whenever the expression of genotype is not only complete but also incomplete. Such a tendency was noticed, to some extent, in the pedigree survey of schizophrenia carried out by Mitsuda. It is very interesting that these tendencies are confirmed by twin study, especially analyzing the incomplete discordant MZ twin cases.

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HEREDITY AND ENVIRONMENTAL FACTORS IN THE DEVELOPMENT OF PSYCHOGENIC DISEASES

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Our objective is to evaluate the influence of heredity and environmental factors in the development of psychogenic illness: psychoneurotic symptoms, psychosomatic diseases, and neurotic traits of character. We applied psychoanalytic diagnostic methods and measures to neurotic twins from a psychotherapeutic outpatient clinic in Berlin (GFR). The sample comprises 21 MZ pairs, 16 same-sex, and 13 opposite-sex DZ pairs. The 100 subjects consist of 64 adults and 36 children or adolescents. All 100 subjects were personally seen and psychologically examined. The zygosity determination was undertaken by P. E. Becker of Göttingen, GFR.
The mean intrapair difference of all MZ twin pairs amounts to 3.81 scaling points in a scored degree of severity of the neurosis; that of all DZ pairs to 5.00 points. The distribution of 657 neurotic symptoms in a chi-square table of the 21 MZ and 29 DZ twin pairs shows that 32.7% of the symptoms are concordant in the MZ sample, but only 16.7% in the DZ sample. Both groups of twins differ in a statistically significant degree. Hereditary influence could be shown in the manifestation of neurotic depressive symptoms, maladaptive oral and aggressive behavior, as well as in schizoid behavior deviations. Hereditary factors play a role in the formation of the neurotic character structure.
Regarding the environmental pathogenic factors, subjects more heavily stressed in early childhood were found, on the whole, more severely neurotic in later life. In brief, three main groups of stressing environmental factors can be described: (1) emotional rejection, (2) an absence of key persons to love, and (3) special additional frustrations and conflicts. In the discordance analysis of MZ twins, the method of twin studies offers a unique chance to ascertain pathogenic environmental influences by means of a detailed biographic analysis.

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