From the Point of View of Biometrics:
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Biometrics is the science dealing with measurement of living organisms (including man) and Biometrics Research in Psychopathology stresses the objective approach to the assessment of the capacities and disabilities of mental patients and objective evaluation of therapies and their outcome. To this end, the biometrician must utilize a vast variety of techniques from such disciplines as physiology, psychology, psychiatry, sociology, anthropology, and statistics. Essentially, ours is an integrative methodology rather than a field of knowledge. What has the conference contributed from the point of view of biometrics, conceived in this manner?

First, there was very little discussion of objective measurement, most of the methodological problems being concerned with interviewing and classification. There were, however, certain principles discussed which have a bearing on biometrics. The need for defining terms, stressed by Professors Hempel and Greenberg, and the need for specification and recording, emphasized as well by Professor Greenberg, are indeed important for future progress, even though they may appear elementary. A recent survey of some 800 articles on prognosis in schizophrenia revealed a woeful lack of specificity and definition in reporting. Out of the entire group, only 75 studies, or less than 10 per cent, qualified as having sufficient specificity to permit a comparison.

Professor Strömgren highlighted the lack of definitions in his delightful description of borderline cases and the unhospitalized ill, and Dr. Linder demonstrated the weaknesses as well as the strengths of field surveys. It is clear that there is a very important distinction to be made between interviewing an individual with reference to physical illnesses and interviewing him with reference to mental illness. Both types of interviews are beset with many difficulties, but the difficulties in the mental field appear to be greater. It is usually easy enough to get objective indicators of a physical illness, but the indicators of a mental illness are often difficult to observe. Aside from the tendency to deny or hide mental illness in one's self or one's relatives, the problem of determining how people feel internally, which is often the essence of
mental illness, is not an easy one. Special techniques of interviewing the patient, his friends, and relatives are called for. In view of these difficulties, a careful analysis of the interview process itself is called for. Unfortunately, research in interview methods is rather rare. Dogma and excathedra statements rather than research findings dominate the field, and appeals to subjective intuitive approaches exceed the appeals to objective investigations.

While both objectivists and subjectivists in this field must deal with subjective phenomena, the objectivist usually remains fully aware of the subjective nature of his data and makes allowances for error and bias. Many subjectivists often forget the essential subjectivity of their data and behave as if they were dealing with “das Ding an sich.”

As the conference rolled on, my thoughts reverted back to previous conferences which I had attended dealing with the same problem in 1938, under the auspices of the American Psychopathological Association, in 1939 under the auspices of the American Association for the Advancement of Science (Mental Health, Moulton, F.R., Editor and Komora, P.O., Associate Editor, the Science Press, 1939), and the 1943 symposium of the American Psychopathological Association (Trends of Mental Disease, Zubin, J., Editor, Kings Crown Press, 1941). It was quite clear that the participants had changed; some are no longer with us and others who were mere names to us then are now in our midst participating in our deliberations while still others not heard of in the earlier meetings have risen from the ranks. But not only the participants have changed. The field has also changed. In fact, it has undergone a revolution, although on the surface no upheaval was felt. It was more like the building of Grand Central Station in New York at the turn of the century, when no interference with ongoing traffic was permitted. Nevertheless, tremendous changes have in fact occurred. The diagnostic nomenclature, sacrosanct in the thirties, has undergone a serious face-lifting; whether the operation was a success is still debatable. Our hospital doors have been thrown open. Our release rates have been doubled. The geriatric problem, hardly noticed in the thirties, and the childhood problem, practically unknown then, have become the primary sources of concern. The separation of mind and brain, a firm tenet of the thirties, is no longer regarded as a stumbling block in integrated attacks on the mental disorders. Fields such as clinical psychology, sociology, anthropology, biometrics, hardly mentioned in the halls of psychopathology in the thirties have now, if not entrenched themselves, at least put their foot in the doorway. Funds for research, very scarce in the thirties, are at least available, if not
ample, now. The vast armamentarium of different therapies, the struggle against the tendency to build bigger hospitals, and so on, are all earmarks of a revolution which has not yet spent itself.

But what basic contributions has the conference made to biometrics?
We have learned that:

1. Our problems in psychopathology are no different in kind from those which would have faced us in any other field of medicine. This is a small consolation but, nevertheless, reassuring.

2. Control groups for therapeutic trials are difficult to find not only in psychiatry but in other diseases also.

3. The rare utilization of autopsies in the evaluation of mental disorders is not as great a shortcoming as we had anticipated. The fields in which autopsies are utilized do not benefit from them as much as we thought.

4. The subjective and objective approaches must go hand in hand.

It also became clear during the meeting that mere conferences will not resolve the problems of differing terminology, nosology, and procedures. Some way must be found of having a face to face meeting with the problem of classification directly. From the point of view of field studies, the most important differential is the decision regarding a given individual in a field investigation as to whether he constitutes a “case” or not. Then follow the questions of where the case is to be classified—psychosis, neurosis, character disorder, psychopathic personality, mental deficiency, epilepsy, and so on. Once the rubric is found, the subclassification can proceed. In order to follow through such a procedure empirically, it would be well to organize a board of experts representing various classificatory points of view from the fields of psychiatry, psychology, biometrics, sociology and anthropology, social work, and so forth. This team of experts should conduct an actual field study in a variety of localities to see just what agreements and disagreements actually exist in their classification results.

One of the problems facing such an investigation is that of securing either a random sample of a large population or the total population in a small geographic area. Furthermore, the selection of the different regions to be investigated and contrasted also poses a problem.

Gathering such data by representative sampling of the general population entails the expenditure of vast sums of money. Moreover, the results obtained are often subject to the doubt whether the sample taken was, in fact, truly representative. There are some ways in which both these problems can be circumvented. One plan is to utilize the data made available through registration for military conscription. Perhaps in this way the military can pay part of its debt to society. Several countries in Europe and the Americas have systems of registration for
compulsory military service for their total male populations of a specified age. Since these groups are readily accessible and constitute populations rather than mere samples for certain age groups, they would appear to constitute a unique and invaluable source of data on mental disease. The relative ease with which information on such groups can be obtained and the fact that successive generations of youths pass through the conscription process in successive years further contribute to the value of this potential source of data.

The advantages afforded by studying the registrants for conscription are as follows:

1. The total population of conscription age is available, including those who are in mental institutions, prisons, etc. Even the names of those who failed to reach registration age because of prior death can be obtained from the birth certificates and death certificates of the area involved, and their mental status at death recorded.

2. A random sampling of the registration population can be easily obtained.

3. The proportion of youths disqualified for mental cause is rather high and will yield sufficient numbers to be of statistical value.

4. The countries and regions to be selected can be as varied as possible with reference to cultural backgrounds and socio-economic variables.

While a study of the registrants for military conscription will miss many parts of the population, such as women and children, it will cover the male population of conscription age, and through follow-up of these cohorts, the mental health of the entire generation in successive decades can be followed. Furthermore, each registrant can serve as a proband for his family and relatives in community surveys.

Another advantage afforded by this type of study is the possibility of getting retrospective information on each registrant with regard to childhood experiences, schooling, adolescent friendship, jobs, heterosexual development, and so on, as well as the possibility of including a psychological testing program. Perhaps a modest approach to this investigation would consist of focusing, at first, primarily on the mentally defective for testing purposes. Since the detection of feeblemindedness is at a more advanced stage than is the detection of mental illness, it might be easier to get agreement on this category. Subsequently, agreement can perhaps be reached on the psychoses and finally on the neuroses. Whatever method is finally chosen, it is clear that only practical field investigations will permit us to break through the impasse of differing nosologies. The biometric evaluation of the sampled individuals would add immeasurably to our knowledge.

Another emerging need is the demand for prognostic studies. We can not rest with diagnosis alone, since diagnosis per se can become a mere •
statistical convenience. Without cohort studies of patients under the various diagnostic groupings, the diagnoses themselves would be empty shells. There are at least three sources of data on which prognoses can be established: (1) the premorbid characteristics; (2) morbid characteristics; (3) course of illness. Armed with these three sets of data, we can try to predict the outcome of illness with or without treatment or with contrasted treatments. It is this last set of data, the outcome data, providing a criterion of outcome of illness, which at the present time is least developed, and methods and techniques for obtaining criterion data must be developed.

In planning this conference, we had some definite expectations as well as some fears. We had anticipated a considerable amount of difficulty in communication, a good deal of conflict of points of view. Fortunately these did not occur. Neither did we lose any of our participants to the temptations of New York City and its attractions. We, of course, did not anticipate resolving all the difficulties about defining the problems of mental illness, nor did we anticipate agreeing on an acceptable nosology. In this, we were not disappointed. Perhaps the most outstanding accomplishment of the conference was the determined will of nearly every participant to continue the effort at future collaboration. I am reminded of the story of the meeting of clergymen who had had many disputations in the course of several days on matters of church policy. At the end, the host, in wishing his colleagues farewell, said: "We have had many discussions and considerable disagreement, but now the time has come to take leave. You go your way and I'll go His way!" [Laughter] The results of our conference can not possibly have the same fate. We have learned too much from each other for that to happen; and collaborative efforts will break down the remaining barriers. [Applause]