

The Historical Context of Franz Kallmann and Psychiatric Genetics*

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This is the second time, to my knowledge, that an American researcher in psychiatric genetics is honored with the Anna Monika Foundation Prize. Two years ago a prize was given to Professor George Winokur of the University of Iowa, whose work on the genetics of affective psychoses has been the direct inspiration of my own efforts. But the history of psychiatric genetics in the United States properly begins with the work of Professor Franz Kallmann, and I should like briefly to remember his life and work, to put today's award into historical perspective.

Kallmann's pioneering contributions to the genetics of schizophrenia came in an era in which political ideologies, centering on racist interpretations of the inherited nature of man, ravaged the world, and (in passing) nearly overwhelmed scientific thought in human genetics. His scientific success in the face of these historical events, which forced his emigration to the United States, is a tribute to the courage and tenacity of his scientific spirit.

Franz Kallmann was born in 1897 in Silesia, Germany, the son of a physician who had converted from Judaism to Christianity (personal communication, A. Falek). He received the M.D. degree from the University of Breslau in 1919, after his military service, and received further training in psychiatry under Karl Bonhoeffer and neuropathology under Creutzfeldt. In 1928, he became interested in the possible role of genetic factors in schizophrenia, and between 1931 and 1935 he obtained several fellowships at the Research Institute in Munich in the department headed by Ernst Rüdin. This Institute, later known as the Max-Planck Institute for Psychiatry, contained virtually all of the original pioneers in psychiatric genetics and in psychiatric twin studies, including Essen-Möller, Lange, Luxenburger, Rüdin, Bruno Schulz, Sjögren, Slater, and Strömberg. However, in 1935 the increasing pressure exerted by the Nazis put an end to his work there. Considered a Jew by the Nazis although not by himself, he could not publish his work, and had to rely on friends at Munich to read his papers for him. He could only get his statistics into print by quotation in papers of others' authorship [11].

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During this time, respected scientists in human genetics provided official commentary on the inheritance of schizophrenia to a law mandating forcible sterilization of patients with a variety of hereditary diseases among them schizophrenics [12]. Association with Nazi programs diminished the reputation of their scientific discipline, especially since the sterilization program can be seen as the predecessor of the eventual murder of many thousands of psychiatric patients, and the analogy to medical experimentation on and mass murder of Jews and other minorities is easily drawn. That these connections to human genetics were drawn and continue to be drawn [13] is unfortunate at many levels, not the least of which is the effects on the scientists in the field and on their work.

Upon arriving in the United States in 1936 Kallmann had to face tremendous difficulties. He barely spoke English, he was not acquainted with the American way of life in general and with academic manners and conventions in particular, and American psychiatry favored psychoanalytic aspects rather than genetic ones. He worked for a while on a small stipend in the psychological department of the New York State Psychiatric Institute, and when he started genetic research, it was only his wife who helped him. However, despite of all obstacles, he succeeded in organizing the first research department in psychiatric genetics in the United States at the New York State Psychiatric Institute [4]. This department became the main source of intellectual support of psychiatric genetic research in the U.S. for a generation.

The substantive content of Professor Kallmann's work has been thoroughly reviewed elsewhere [9]. His first major work, published after his arrival in the United States, was a family study of schizophrenia in 13,851 relatives of 1,087 patients admitted to a Berlin hospital in a ten year period, in which he estimated the prevalences of the different forms of schizophrenia in relatives of patients compared with the general population [6]. The population expectancy of 0.85% was much smaller than the expectancy in relatives of 16.4% (children) and 11.5% (siblings). This implied the hereditary nature of schizophrenia, although cultural transmission of schizophrenia was not ruled out until the Danish and American adoption studies a generation later [5, 6]. In this study Kallmann was also the first to identify the increased mortality in relatives of schizophrenics, particularly from suicide. It should be noted that his discussions of mechanisms of inheritance and of factors which might cause expression of the inherited tendency to schizophrenia were not based on acceptable scientific methods, but represented a combination of clinical judgment and scientific outlook, and so have not stood the test of time as well as his data has.

In 1939 he embarked on his classic twin studies of schizophrenia and manic-depressive illness in New York State hospitals. These studies were for many years the major evidence for genetic factors in manic-depressive illness and in schizophrenia and still constitute an important support for the genetic hypothesis in these disorders, despite methodological criticisms that were later applied [2]. In these studies, the concordance of schizophrenia and manic-depressive illness for identical (monozygotic) twins was much higher than the concordance in fraternal (dizygotic) twins, suggesting that genetics rather than shared environment produced the concordance.

Although his work was well received among medical geneticists, he did not find widespread acceptance in American psychiatry. Particularly during the years immediately following the Second World War, the idea of genetic differences in human behavior was considered repulsive, in part as a reaction to the pseudo-scientific claims of the Nazis. The tide of opinion against genetic research and applications in psychiatry lasted for an entire generation, and a generation of research progress may thus have been lost. Kallmann died in 1965, just before the American and Danish adoption studies of Kety and Rosenthal and of Heston [5, 7, 10], showing schizophrenia transmission to adopted-away children, were published. These studies turned the intellectual and emotional tide in the United States and elsewhere in the world back in favor of genetic research, at least, in psychiatry and behavior. Even so, there are still fierce political controversies over performance of some of these researches, such as studied of XYY karyotype and criminality, or group differences related to inheritance of intelligence. In 1975, to justify a campaign of academic, legal and political action against a university approved study of XYY children at Harvard (in the United States), the explanation was offered that "we consider attempts to determine a genetic basis for anti-social behavior, a diversion with harmful effects" [1]. The researcher conducting the study ended it shortly afterward, citing threats to his family and self, and unrelenting political and legal pressure against him.

We, in our time, must again confront issues of biological and genetic influences on our minds, but in a truly humane and scientific spirit. In that sense, we who are members of an international community of psychiatric and psychobiological researchers, are still engaged in the reconstruction of our intellectual world from the damages of Nazism. One indication of how far this recovery has proceeded is the distribution of this prize: a German foundation has sponsored an international committee of judges, who have awarded prizes to three American physicians, all three of whom, it turns out, are Jewish.

At this point in history, however, the danger to free inquiry into genetics of human behavior comes from the left, in the form of a recrudescence of Lysenkoism that denies any possibility of genetic factors in behaviors that are of social concern [1]. Perhaps Franz Kallmann's courageous perseverance and dedication to truth will serve to help human behavior genetics survive its next political buffeting.

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