

beyond doubt, nor the fact that the autopsy represented the only possible source of Gellhorn's infection. Blood transfusions, where in emergencies tabetics and cases of old-standing syphilitic aortic disease were used as donors, have never resulted in the transmission of the disease (Macnamara). The cerebro-spinal fluid has also been found to be non-infectious.

*Transmission to offspring.*—Children of paralytic or tabetic mothers are mostly born normal. Pilcz reports 32 cases of the former, of whose 34 children 4 showed the clinical signs of congenital syphilis (this was confirmed *post-mortem* in 3 out of the 4). Out of 7 tabetic mothers, one aborted at two months and another produced a syphilitic infant, which was too diseased to survive. In spite of this, Pilcz, Jahnelt and Pfeiffer consider it rare for general paralytic or tabetic mothers to abort or to produce syphilitic offspring. Should, however, the spirochæte be transmitted, it is unaltered, and is therefore capable of producing all the signs and symptoms of ordinary syphilis. The Wassermann reaction of the blood of the newborn infants, or of the retro-placental and umbilical blood, is no criterion. All such infants need antisyphilitic treatment, and a very careful watch for later syphilitic manifestations is indicated.

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*Psychiatric Indications for Sterilization.* (*Das Kommende Geschlecht*, Bd. v, Heft 3.) Rüdin, E.

An extensive investigation—on empirical lines—was undertaken for the elucidation of the two problems, Which types of psychical defect are transmitted hereditarily? and What degree of transmissibility justifies sterilization? The material for this investigation comprised a group of psychotics, psychopaths and their "normal" relatives, a group taken from the average population, and a group of picked families of particularly sound mental stock. The aim of the researches was to arrive at figures showing the relative incidence and degree of heritable psychical defect in the three groups. Concerning the two latter groups, the obvious fact emerges that the incidence of such defect is considerably higher among the average population than among the picked individuals.

Out of the first group, the following diseases are dealt with:

*Hereditary chorea and myoclonic epilepsy.* Both rare, and hence comparatively unimportant, but the two diseases in which the Mendelian laws of heredity are fully established. In the case of chorea 50% of the offspring of each patient are affected. Since the disease remains, as a rule, latent over a considerable number of years, so that the affected individuals cannot be picked out before reaching the reproductive age, sterilization of all such offspring would appear justifiable.

Myoclonic epilepsy only occurs by endogeny, and here 25% of the offspring suffer from the disease. The researches of Lundborg have shown that this condition is frequently associated with other defects and mental abnormalities, so that its eradication by

sterilization would appear to be doubly indicated, particularly in regions where it is endemic (*e.g.*, southern Sweden).

*Schizophrenia*.—Unions where one of the parents is schizophrenic result (in round figures) in 9–10% of schizophrenic offspring, another 34–42% showing schizoid and other psychopathic traits. A total, therefore, of 43–52% are mentally affected. Where both parents are schizophrenics, 53% of the offspring are schizophrenic and a further 29% are psychopaths, giving a total of 82%. No data are as yet available as to the remaining 18%.

The offspring of one *manic-depressive* and one normal parent show 30–33% of manic-depressives, and at least an equal number of cycloid psychopaths, *i.e.*, a total of 60–66%. Where both parents are sufferers from the disease, the incidence of manic-depressives among the offspring is 62.5%, while the remaining 37.5% are psychopaths.

In both these diseases the indication for sterilization is self-evident.

The author's figures for the average population (Munich and the greater part of Bavaria) show that the expectation of schizophrenia is 8.5 per 1,000, and of manic-depressive insanity 4.1 per 1,000. The diseases do not always manifest themselves before marriageable age, and sterilization is recommended as soon as the diagnosis can definitely be established. Prof. Rüdin does not consider that it should be omitted on account of the fact that schizophrenia is frequently associated with spontaneous sterility.

The figures for *true epilepsy* are still fragmentary, but 10% roughly represents the expectation of affected offspring from one epileptic and one normal parent. This figure is much higher if other forms of mental abnormality are taken into account.

*G.P.I.*—The offspring show no mental defect—at the most congenital syphilis. In the present state of our knowledge, anti-syphilitic treatment of the mother during pregnancy and of potential parents generally is considered to suffice.

Very little of general applicability has been discovered about alcoholism, psychopathies, hysteria, the various grades of mental defectiveness and pronounced criminal propensities. Each case has to be judged on its own merits, and the author looks upon these as the population, *par excellence*, with which the eugenicist must concern himself. He himself has reason to think that far more is here determined hereditarily than we are at present inclined to suspect.

Prof. Rüdin is in favour of voluntary rather than legally enforced sterilization. He considers widespread and systematic propaganda by the medical profession as essential, and foresees no difficulty in securing the necessary consent from patients or their guardians, provided the cases are handled with sympathy and understanding, and a full explanation of the possible consequences is given. Consent having been obtained, the operation should be performed free of charge, and on the combined advice of the medical attendant and an expert (who must be medically qualified and must possess a special knowledge of genetics).

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