the longer the observation the greater the incidence. The attacks supervened after a variable latency, commonly three to five months, but in one-fifth of the series five to ten months. General epilepsy was less prevalent than the Jacksonian type. The latent period coincides with cicatrisation of the lesion, the form and particularly the extent of the scar-tissue being the determinant, and not the lesion itself.

The crisis of *grand* or *petit mal* is produced by a cortical vaso-motor derangement, whether anæmia or stasis. Anæmia must be an adequate cause, for suppression of systole in certain cardiac cases results in vertigo 3 secs., fainting 8, and epileptiform convulsions 12 to 15 secs. Leriche is stated to have observed manifest anæmia in exposed brains in two subjects. Also the retinal arteries have been seen in spasm 20 secs. before convulsion and persistent throughout *status epilepticus*.

Alimentary intoxications are admitted the most important cause of onset, sometimes the accumulation of normal waste products, sometimes polyglandular inefficiency. The stereotyped manifestations of epilepsy cannot be identified with the variable phenomena of anaphylactic crises.

Edgeworth claimed complete cure in 40 *per cent.* of a short series by protein therapy—small doses of peptone intravenously. No success attended auto-serotherapy. JOHN GIFFORD.

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4. Clinical Psychiatry.

General Paralysis and Heredity [*Ueber die Rolle der Erblichkeit bei der Paralyse*]. (*Arb. für Psychiat., München, Bd. ii, February*, 1921.) *Meggendorfer, F.*

From the time of Bayle the influence of heredity in the causation of general paralysis has received much attention, and at the present day there are many leading authorities who hold that, next to syphilis, heredity is the most potent ætiological factor. It has been shown that in the families to which paralytics belong there is an hereditary mental taint, less than in the families to which persons affected with other mental diseases belong, but greater than in the families to which normal persons belong. Further, in the descendants of paralytics a mental taint has often been observed, so that some authors have held that general paralysis not only arises from degeneracy but produces degeneracy. Most studies, however, of the offspring of paralytics have dealt chiefly with young persons, and do not show their fate in adult life; on the other hand, investigation of the family histories of mentally affected congenital syphilitics yields results that are misleading, because account is taken only of the diseased and not of the healthy. An inquiry into the mental constitution of the descendants of paralytics, if it is to yield results that shall be comparable with those yielded by a survey of the descendants of persons of other categories, must start from the paralytics themselves.

From the entire paralytic case-material of Upper Bavaria since the year 1859, Meggendorfer has selected such cases of general paralysis as satisfy certain requirements: The diagnosis must be beyond doubt, the date at which the paralytic became infected with syphilis must be

approximately known, and his youngest living child must now be at least thirty years old. In 43 of these cases he has been able to make searching inquiry of relatives. He gives statistical information respecting the offspring of these 43 paralytics, and he gives a number of genealogical trees. Dividing the offspring into those begotten before and those begotten after the parent's infection with syphilis, he finds: Miscarriages or stillbirths, 2 and 29 respectively; died of syphilis, 0 and 49; died of non-syphilitic accidents, 5 and 19; healthy sane persons, 14 and 50; psychotic, 0 and 6; psychopathic or neurotic, 4 and 32. He has collected information also respecting 120 grandchildren.

Among the children begotten after the infection there are many quite sound persons. Consider, for example, a family in which the father acquired syphilis before marriage and then infected his wife. She soon became tabetic; he, later, paralytic. There were five children of the marriage, of whom the fourth died in childhood; there were no miscarriages; the three last children were born when the mother already had tabes. The eldest son, a fine, big, handsome man, is a high officer of state, with an exceedingly responsible position in the Empire; the second son is a colonel; the third, a high official; the daughter, too, is in every way a person of first-rate qualities. The two married sons have large families of healthy children and grandchildren. Meggendorfer's material affords several other instances in which the families of paralytics have won social advancement. Moreover, the three persons included who were begotten after the father became paralytic are all quite sane and healthy.

The psychotic and psychopathic groups of offspring exhibit a great variety of disorders, which are found in about the same proportions in those begotten before as in those begotten after the infection. There is a comparatively large number of excitable and hot-tempered psychopaths. Such a character, as Plaut has shown, is not rare in young people who have been congenitally syphilitic, but it is not to be regarded as a result of syphilis, or of germinal injury arising from syphilis. The material includes several schizoid psychopaths. We know that the causation of dementia præcox has often been ascribed, particularly by the Viennese school, to syphilitic damage of the germ; but all the schizoid cases here have dementia præcox in their family history; the psychosis is transmitted irrespective of the general paralysis, and the cases arising can be simply explained on Mendelian principles without assumption of any germinal injury of syphilitic origin. So, too, wherever in this material a manic-depressive disorder is noted, similar disorders have occurred in the ancestry.

Psychotic or psychopathic taint does to some extent make a person more liable to general paralysis, but only by inclining him to reckless indulgence of sexual appetite and so increasing his risks of syphilitic infection; the taint has no greater importance for the production of general paralysis than for the acquisition of syphilis. There are various indications that the exceptional proneness to general paralysis in certain families is due to some familial peculiarity of the physical defences against the spirochæte; there is no indication that this peculiarity is in any way related to hereditary mental taint.

SYDNEY J. COLE.