

Moreau, of Tours, of nine-tenths; Martini of nearly one-third; Esquirol of one-fourth in the poor, of three-fifths in the rich; Bergmann of one-third; Emmert of 75 per cent; Maudsley of "more than a fourth but less than a half;" Marce of nine tenths; Leidesdorf of 25 per cent; Hill of one-fourth—making an average estimate of 52 per cent. of hereditary influence.

With all due respect to the authorities quoted, I am afraid one can hardly help being struck with the fact that the majority of the "estimates" begin almost where the "figures" leave off, and continue onward and upward to perilously near the pinnacle of 100 per cent., and that data showing 25 per cent. are hardly a sufficiently solid basis for computations reaching over 50 per cent.; even though quoted as such. Would it not seem highly probable, upon even this meager showing, that our generally accepted conception of the mischievous influence of heredity in this important field is in need of serious revision? The wider the range of investigation is made and the more completely local or personal sources of error are eliminated, the smaller becomes the apparent importance of heredity as a factor, while the common estimate of over 50 per cent. of malevolent influence seems to be supported by data to the extent of barely 10 per cent.

Of course, it goes without saying that these figures by no means represent the total number of cases in which suspicious or morbid family history existed, for there must have been many others in which, from various causes, it was impossible to elicit it; but, on the other hand, it must be remembered that the terms "hereditary predisposition" and "family influence" are very loosely used and in many cases really mean nothing more than that one or more of the patient's numerous relatives or ancestors has been insane, or even epileptic or inebriate, a fact which may have no connection whatever with the case in question, excepting an historic one. If every family in which a case of mental aberration can be ferreted out is to be regarded as predisposed, how many of us will escape suspicion? The mere fact that one of the patient's relations or even ancestors has been insane is no more necessarily the cause of his insanity than would the fact of his grandfather having been lost at sea be the cause of his meeting death by drowning. *Post hoc* is by no means always *propter hoc*, although I think that we are often apt to regard it so in hereditary pathology.

When we come to consider carcinoma, the second great morbid process in which heredity is declared to be a factor, its apparent influence shrinks to still narrower limits. Hardly any two estimates agree, not even those given at different times by the same authority, but their range of variation is much less striking than in the case of insanity. Definite data of any kind

seem even scarcer and more difficult of discovery, a tolerably extensive review of the literature of the subject in the Library of the Surgeon-General resulting only in the mere handful which I have to present. S. W. Gross finds hereditary influence in 10.3 per cent of his cases; Lebert traces it in 10 of 102; Paget traced the disease to other members of the family in 78 of 322 cases, and in another series of 160 cases found hereditary tendency in 26; Sibley finds 34 instances of heredity in a collection of 305; West, 8 of 49 cases of uterine carcinoma, and Von Winiwater 5.8 per cent. in his list of cases of mammary carcinoma; Velpeau finds an inherited predisposition in one-third of his cases, while Parker found such family history in only 56 of 397 cases. I have succeeded in getting a report of only one of the hospitals devoted specially to the treatment of this disease, the Brompton Cancer Hospital of London, which gives the proportion of cases having relations who are affected with carcinoma 10.3 per cent. in their grand total of 28,638 patients in thirty-seven years.

A highly suggestive bit of collateral evidence in the same direction is the fact given by Brannan in his most interesting analysis of 2000 consecutive deaths in the experience of the Washington Life Insurance Company, that of the 56 cases having carcinoma in their family history (41 of whom had lost a parent by this disease), only one, or 1.79 per cent., died of carcinoma, while of the remaining 1944 having no such history, 67, or 3.45 per cent., fell victims to it. This unexpected preponderance of mortality, of course, is probably accidental and due to the small number of predisposed cases; but it certainly would not have been thus were heredity a really appreciable and active factor in the disease.

The evidence is scanty, but tolerably harmonious so far as it goes, and I think it would be safe to say that the tendency of the best thought of modern authorities on this subject is decidedly in the direction of seriously doubting whether heredity plays any appreciable part as a factor in the production of carcinoma. Indeed, one can hardly help wondering how such a widespread belief in the importance of hereditary influence in carcinoma came to be built up on such an apparently slender basis, especially when we remember that the figures given probably represent nearly the full proportion of cases in which a suspicious history actually existed. Here there is comparatively little tendency to concealment or falsification, on the part either of the patient or of her relatives; on the contrary, we will be told at the outset of our inquiries, with what seems almost like a morbid pride, that "there is cancer in the family." Indeed, I am half inclined to believe that we have unconsciously imbibed the major part of our belief on this subject from the laity. Merely