

I have of necessity been painfully brief in my references to Karl Pearson's remarkable work. I can only urge those interested in this matter to study his writings and deductions, for they seem to me to afford an opportunity to settle this question of the effect of parental tuberculosis and other diseases in a way which is not possible by any other means—by the ordinary method of striking averages, for example.

You will have observed that so far I have dealt wholly with but one form of inherited conditions, namely, with those direct or indirect inheritances due to diseased conditions which have been acquired by the parent or parents. There is yet another group where the morbid conditions are, or have been, in a longer or shorter line of progenitors, and here also it is to be recognised that some at least of these morbid conditions must have an influence upon the duration of life, though not all of them belong to this category. Cases, for example, of sex-digitism, of Daltonism (color blindness) and Albinism, do not necessarily interfere with the vitality, if I may so express it, of the individual. Other conditions like Hæmophilia, which has been traced through long generations in several families, when they show themselves in the individual, are liable to shorten life. A recognised "bleeder" is distinctly an unsafe individual, and must be shunned by insurance companies, for at any moment some trivial accident is liable to lead to a fatal hæmorrhage. What is more, we recognise that the liability to tuberculosis is peculiarly evident in certain families, that there is a tuberculous diathesis, as again there is a gouty diathesis, and we may be unable, and in fact generally are unable, to point definitely to the particular ancestor who acquired tuberculosis, gout, etc., from whom the predisposition to one or other disease has been inherited.

I cannot now take up the full consideration of this subject of racial or family inheritance, and must ask you to accept this, that in certain cases these orders of inheritances would seem to develop as what is known as "spontaneous variations" on the part of one or other individual. Certain fusions of the two germ cells lead from unknown causes to the production of "sports." As you know, no two individuals are alike, and just as in throwing three dice one may rarely throw three sixes or three ones, so in conjugation the result, instead of being, as is usually the case, something approximating the mean, may be an extreme variation. And once this extreme variation shows itself in a family, there is a peculiar liability that subsequent generations may inherit the extreme characters.

But this does not include all cases of family inheritance. We are, I think, bound to conclude that some cases at least have originated,