

- 4 during the second year,
- 5 during the third year,
- 1 died later in childhood.
- 2 alone found to be alive—one aged 20 years, the other only 21 months.

The only conclusion from these observations is that certain substances which lead to intoxication of the parental system act also deleteriously upon the germ cells, lower the vitality of the same, so that the individual resulting from the conjugation of one of these with a germ cell of the other healthy parent is incapable of perfect development, is of lowered vitality, and is liable to die prematurely.

This individual himself is in one respect the direct victim of the intoxication—inherited plumbism is lead poisoning acting initially upon one or both of the conjugating germ cells—but it must be clearly recognized that the mental and other disturbances which show themselves after birth are not the result of the action of lead salts still circulating in the system. Indeed, the lesions of inherited plumbism are of a totally different order to those of acquired plumbism; they are one and all lesions of incomplete development, and, if they show themselves particularly as conditions of imperfect organisation of the nervous system or of susceptibility to one or other infectious disease, that is in accordance with the great law of which we are constantly meeting evidences—the law, namely, that the characters which are the last to be acquired by the individual, the race, or the species are those which are the first to be lost. Thus in the evolution of man one of the last acquirements—the crowning acquirement whereby a man is distinguished from all other animals—has been that of the higher organisation of the nervous system. Another has been the development of relative insusceptibility to sundry infectious diseases. And the individual whose full development is arrested is thus particularly liable to manifest a greater or less degree of mental instability, the development of the higher nervous centres being incomplete, or a peculiar susceptibility to the infections liable to attack human beings.

I do not know of any equally exact series of figures bearing upon the influence of chronic alcoholic intoxication on the part of the father upon the offspring. I would suggest that a research among the magnificent material accumulated by the great insurance companies of this continent might lead to valuable results. Certainly we have indications that parental alcoholism has a deleterious effect, and that not necessarily in the direction of the offspring being especially prone to alcoholism, but in that of imperfect development, more especially