

cells, but only come to act upon the embryo during the course of its development. There is, therefore, no such thing as inherited tuberculosis or inherited syphilis. At most there is congenital syphilis and congenital tuberculosis, the microbes of the disease being passed to and acting upon the foetus during intrauterine existence.

But now, do these considerations render it impossible that there should be anything of the nature of inherited disease? What I wish to demonstrate to you to-night is that they do not.

We may regard the developing individual as composed of two portions—the main body and the germ cells—and for purposes of inheritance the main body is the husk or envelope which protects these germ cells, so that, to quote the words of Sir Michael Foster:—"When the animal kingdom is surveyed from a broad standpoint, it becomes obvious that the ovum or its co-relative, the spermatozoon, is the goal of an individual existence; that life is a cycle, beginning in the ovum and coming round to an ovum again. The greater part of the actions which, looking from a near point of view at the higher animals alone, we are apt to consider as eminently the purposes for which animals come into existence, when viewed from the distant outlook whence the whole living world is surveyed, fade away into the likeness of a mere byplay of ovum-bearing organisms. The animal body is in reality a vehicle for ova; and after the life of the parent has become potentially renewed in the offspring, the body remains as a cast-off envelope, whose future is but to die."

Thus, graphically, we may represent the body according to the following diagram. The fertilized ovum produces the whole individual organism, giving rise to germ cells and body cells. An individual germ cell when fertilised gives rise to another organism composed of germ cells and body cells, and so there has been a continuous line of germinal protoplasm, which, dividing and dividing, has nevertheless come to us from the beginning of things, or, as Weismann has put it, the germinal plasm is potentially eternal, the somatic plasm inevitably dies. Now, if an individual has his arm cut off, that does not influence his germ cells, or, at least, can only influence them to this extent, that possibly the individual being minus an arm has not the means of being quite so well nourished as other individuals, and so, the general nourishment of the body being poor, the germ cells may suffer alike with the other cells of the body. But by no conceivable means can we recognize that this largely independent germ cell, consisting largely of undifferentiated material, can be so acted upon by the loss of the arm of the parent that when it develops after fertilisation it shall show a similar loss of an arm. So also, we cannot imagine how, to use a