the same Arabian had subsequently two foals, the sire of which was an Arab horse, and these also showed some zebra-like markings. How, then, did these markings, characteristic of a very different animal, arise in these foals, both parents of which were Arabians? I can imagine it being said that this was a case of reversion to a very remote striped ancestor, common alike to the horse and the quagga. But, to my mind, no such far-fetched and hypothetical explanation is necessary. The cause of the appearance of the stripes seems to me to be much nearer and more obvious. I believe that the mother had acquired, during her prolonged gestation with the hybrid, the power of transmitting quagga-like characters from it, owing to the interchange of material which had taken place between them in connection with the nutrition of the young one. For it must be kept in mind that in placental mammals an interchange of material takes place in opposite directions, from the young to the mother as well as from the mother to the young. In this way the germ-plasm of the mother, belonging to ova which had not yet matured, had become modified while still in the ovary. This acquired modification influenced her future offspring, derived from that germ-plasm, so that they in their turn, though in a more diluted form, exhibited zebra-like markings. If this explanation be correct, then we have an illustration of the germ-plasm having been directly influenced by the soma, and of somatogenic acquired characters having been transmitted.

But there are other facts to show that the isolation of the germ-cells or germ-plasm from the soma cells is not so universal as might at first glance be supposed. Weismann himself admits that in the Hydroids the germ-plasm is present in a very finely-divided, and therefore invisible, state in certain somatic cells in the beginning of embryonic development, and that it is then transmitted through innumerable cell-generations to those remote individuals of the colony in which sexual products are formed. The eminent botanist Prof. Sachs states that in the true mosses almost any of the cells of the roots, leaves, and shoot-axes may form new shoots and give rise to independent living plants. Plants which produce flowers and fruit may also be raised from the leaves of the Begonia. I may also refer to what is more or less familiar to everybody, that the tuber of the potato can give rise to a plant which bears flowers and fruit. Now, in these cases the germ-plasm is not collected in a definite receptacle isolated from the soma, but is diffused through the cells of the leaves of the begonia or amidst those of the tuber of the potato, and the propagation of the potato may take place through the tuber for several generations without the necessity of having to recur to the fruit for seed. It seems difficult, therefore, to understand why, in such cases, the nutritive processes which affect and modify the soma cells should not also react upon the germ-plasm, which, as Weismann admits, is so intimately associated with them.

Those who uphold the view that characters acquired by the soma cannot be transmitted from parents to offspring undoubtedly draw so large a check on the bank of hypothesis, that one finds it difficult, if not impossible, to honor it. Let us consider for one moment all that is involved in the acceptance of this theory, and apply it in the first instance to Man. On the supposition that