protoplasm is composed solely of pangens, and in the cell-kernel are representatives of all species of pangens of the individual in question.

Vries's treatise is worth reading, admirably written, and contains instructive ideas on inheritance; still, like all the four preceding hypotheses, it fails to give any actual explanation of the molecular processes, nor does it offer any conceivable idea. The "single transmissible qualities" again lead back to the pre-formation theory. Further, the construction and development of animal tissues present insurmountable difficulties to the acceptance of Vries's theory, whereas Vries, as a botanist, found no difficulty with the much simpler and relatively independent vegetable-cell.

In addition to the above five theories of inheritance, other naturalists have of late years come forward with endeavours to explain these wonderful phenomena. However, they offer either mere unimportant modifications of one or other of the above-mentioned hypotheses, or they are so far removed from the thoroughly established basis of our empiric knowledge, that they need not be taken into consideration. The question as to whether, in propagation, merely the *kernel* of the cells, or the *protoplasm* likewise, is the bearer of the inherited qualities, is now generally answered in favour of the former. As early as 1866 I had maintained, in my "General Morphology," "that the *inner kernel* has to attend to the *transmission* of heritable characteristics, the *outer plasma* to the *adaptation* to relations with the outer world." Of late years, and especially through the admirable investigations of the brothers Hertwig, of E. Strasburger, and others, highly convincing