

“The true and ultimate *causa efficiens* of the biogenetic process, I propose to designate by a single word, Perigenesis—the periodic wave-generation of the organic molecules or plastidules.” The tendency that this periodic motion has to persist, preserving as it were a characteristic rhythm, explains the relative constancy of ordinary inheritance, while at the same time the results of new experience may be added on to the dominant molecular movement. In very simple organisms, as he says, the plastidules have, so to speak, learned little and forgotten nothing, while in highly-perfected types the plastidules have both learned and forgotten much.

According to Jaeger the continuity is protoplasmic, and is effected after the ordinary fashion of cell-division. To this there has to be added his chemical conception of pangenesis, which, when expressed in more modern phraseology, is the supposition that characteristic chemical substances find their way to the reproductive elements, and make these, to some limited extent, sharers in the general life of the organism.

Galton does not make the continuity much more precise than is implied in the general statement that a residue of the germs, gemmules, or organic units in the “stirp”, remaining latent in the construction of the body, are passed on into the reproductive elements, and keep up a continuity between “stirp” and “stirp”. In regard to the future history of the gemmules, Galton supposes that they form groups in the ovum, and become directly associated with its division, while at later stages they wander and give rise to new cells. To obviate histological difficulties, Herdman proposes the following reasonable amendment, “that the body of the new individual is formed, not by the development of gemmules alone and independently into cells, but by the gemmules in the cells causing, by their affinities and repulsions, these cells so to divide and redivide as to give rise to new cells, tissues, and organs”. Brooks and Nussbaum rest satisfied in maintaining a cellular continuity.

What keeps up the continuity, according to Weis-