

appearance produced is as if the latter originated round the former, instead of the reverse, which is the natural process, as we have lately demonstrated; and this, no doubt, has given rise to the prevailing view of their genetic relation. This appearance may, however, very readily be accounted for, with the object in sight; but to put the picture before another's eyes in the mien of words, introduces an element in the demonstration always difficult to overcome, and most tryingly unprecedented in the present instance, not only from the intrinsic novelty of the subject, but also because a totally different interpretation of the cell genesis, in other bodies, has swayed the minds of nearly all previous investigators. Hence we must beg an unwonted indulgence wherever, in our descriptions, there appear an unusual redundancy of words, and repetitions of the same idea under different guises.

If there had ever been found a free cell which in the least resembled the mesoblasts already developed in other cells, then the office of originating around itself a certain more transparent spherical substance, such as we call ectoblast, might possibly have been attributed to it. But in no instance has such a cell been discovered, nor any one at all approximating its feature; on the contrary, as we have already shown, all homogeneous cells which appear after the irregular granular state of the yolk are endowed with the physiognomy of ectoblasts. The nearest approximation to such a mode of cell formation is exhibited in those instances where the mesoblast nearly fills the ectoblast; but this occurs not in the minutest cells only, (Pl. 9, fig. 8a, K, F,) it is equally seen at all stages of yolk cell growth, (Pl. 9, fig. 8a, A, B, C, D, fig. 6b, fig. 11d, a, and fig. 11e,) even in the largest eggs. Always, wherever a so-called nucleus is found, there is present a clear enveloping substance of lesser or greater thickness. It would, therefore, be just as reasonable to argue that the largest cells originated full-grown around this nucleus, which nearly fills them, as it would be to assert that this obtains in the minutest cells which present such features, excepting perhaps for the fact that these last are nearer related to the dimensions at which the like are generated; for, in truth, as far as argument from appearances is concerned, there is no difference, except in size; and it requires but a moment to magnify the smaller to such an amount that they will appear identical in every respect with those actually far exceeding them in bulk (Pl. 9, fig. 8a, K and C, or fig. 7d). How easily may we, on the contrary, trace the converse mode of genesis! How naturally can one follow the steps of the various stages, from a simple, clear cell, at first condensing a portion of its contents into a cloudy mass, till the cloud grows more and more defined in outline and globular in shape, and at last displays itself as a perfect sphere, which finally proceeds to grow, till, by the time the egg has a shell, it absolutely fills the ectoblast (Pl. 9a, fig. 33b,