1, o^1, h^1). Therefore, since by tracing a series of peculiar cells, from the minutest granular forms to those of a larger size, which have the readily acknowledged characteristics of an egg, there can be no doubt left, that the former are, by nature, the same as the latter, we may proceed to describe the several phases of development in all these bodies, as the progressive steps in the growth of the egg.

The initial form of an egg is a dark, oily looking, granule-like, spherical body, (Pl. 8, fig. 1, *a*,) situated among the interstices[1] of the cells of the corpus graffianum. As the latter not only, but even their nuclei, surpass such an egg in size by several diameters, it is superfluous to debate the question, whether the egg may not be the nucleus of a cell of the generating organ.[2]

At this period in the life of an egg, there arises the question, not only of its origin, but also of that of independent cells; for the former is only one of the many variously endowed vesicles by which the animal economy performs its multitudinous functions. Nay, in fact, it is more: the egg, the animal of one single cell, potentially contains the principle of the future phenomena of life; so that the genesis of an egg is neither more nor less than the genesis of one kind of cells, containing within themselves the type of all future cell formations. The granule-like egg, which we have mentioned as the youngest, is a homogeneous mass, from the centre to the surface; the thick outline being not indicative of a wall, but resulting from the strong refraction, which has no such definite internal boundary as obtains in all membranes around limited contents. But yet it must be acknowledged that the superficial particles are determinedly the cell wall, and indeed may have a coherence among each other greater than those situated interiorly, yet not of sufficient density to produce a refraction so different from the latter as to be recognizable by the microscope. There is a warrant for this probability, in known examples on a larger scale; the yolk parent or outer cell,—even when it has reached maturity, (Pl. 9, fig. 11i, *a*; and Pl. 9a, figs. 36–40, *a*,) and contains a large nucleus and several nucleoli, —shows this plainly, for it is a mass of excessively hyaline granules, the outer of which are only a little more coherent to each other than those within, but not dense enough to produce a recognizable refraction till water is applied and the contents burst out; whilst the wall, (Pl. 9, fig. 7c, and Pl. 9a, fig. 7a,) by its greater

[1] The first blood corpuscles are yolk-cell nuclei which have undergone changes identical with those of the whole "embryo," and they alone remain free, circulating in the channels hollowed out in a mass of cells identical with themselves. These are the first cells originating interstitially, but yet, after all, not essentially so, as is the case with the egg; for each blood corpuscle is a segment of an original yolk-cell nucleus, which has gone through the process of self-division; whilst the egg originates just as the primary yolk cell does, by conglomeration of particles, and the formation of a membrane around the parietes of this concretion.

[2] See Thompson's suggestion to that effect in Cyclopædia of Anatomy, article Ovum, p. 136, Oct., 1856.