Having thus sketched beforehand, as it were, and described, the grosser changes in the yolk mass up to its maturity, we will now return to the starting point of this digression, and indicate the intimate structural changes which the yolk cells undergo successively, as these changes correspond to each successive feature of the growing egg.

At the time the granules begin to invade the clear space, (Pl. 8, fig. 6, 6a,) they are rather coarse and irregular in outline; but the next step beyond this (Pl. 8, fig. 8a) in the growth of the egg reveals a diminution in their size, as if they were, as is probable, redissolved by their mixture with the more albuminous fluid which has received them. Soon afterward, in an egg not much larger than the last, or even of the same size, they again appear very coarse, yet dark and irregular, and withal lighted up by seven or eight quite large, clear, albuminous globules, scattered irregularly in different parts of the mass (Pl. 8, fig. 7). These globules, as we have seen above, are the remains of the hyaline region of the younger egg. That they are not oil drops, such as have been described by various authors as occurring in certain stages of the growth of the egg, is easily demonstrated, first, by their very faint refraction, (Pl. 8, fig. 7, and 16a, 16b,) and most conclusively by their mode of origin, as already described. The slightest pressure diffuses them through the yolk mass, whilst oil globules are more tenacious, and if they break up, each fraction at once assumes a globular form.

Another slight advance, in eggs of about $\frac{1}{350}$ of an inch in diameter, again brings before us a finely granulated yolk, pretty evenly distributed throughout the egg. A still finer granulation, almost imperceptible, occurs throughout another egg which is hardly larger (Pl. 8, fig. 11a). The application of the extreme high powers of the microscope, however, shows that these granules are spheres of dark, oily globules (fig. 11a, *a*) closely packed together, which would be perfectly invisible under an amplification of four hundred diameters, and leave one to suppose that nothing but a homogeneous fluid occupied the field. Other eggs, (Pl. 8, fig. 9, 9a,) of the same size as the last, are far from resembling it: hardly one half of the yolk is dense and dark, and amid the finer materials, coarse angular grains arranged in heaps are scattered pretty freely, but as yet few grains appear in each heap; within the lighter space these grains are much less numerous, being only grouped in twos or threes, and even that not frequently. In this portion of the yolk are also very numerous minute but distinct particles, like dust floating in the air across a sunbeam. The clear globular spaces previously mentioned are defined by the anastomozing of these heaps, which form irregular, sponge-like meshes. A further approach of these heaps to each other is observed in more advanced stages of growth of the egg; but, before considering these changes, we must not pass over an intermediate condition of peculiar features, which has seldom been seen during our investigations.