

where the eggs pressed against each other, slightly flattened facets were formed (fig. 1), a feature noticeable in many other eggs, especially the eggs of certain fishes. In diameter each egg was about $\frac{1}{120}$ of an inch, or slightly larger than the mites' eggs described by Claparède, which were about $\frac{1}{140}$ of an inch in long diameter, the form being ellipsoidal in that case. Claparède states that the eggs may be deposited at all times of the year*, but in the case of this Canadian *Hydrachna* the chief spawning period may be in the warmer summer months.

When examined with a pocket lens, the bright red ball of yolk is seen to be surrounded by a dull whitish envelope, the external shell. Under a higher power, say 200 diameters, the red mass or vitelline globe, which is very opaque and dense, is enclosed by a thin skin or layer (fig. 1, *b*) outside of which is the extremely thick external capsule or shell (fig. 1, *c*). This external shell, which I distinguish as the chorion, is either of great thickness or a wide space separates it from the vitelline globe inside. In the hen's egg the yellow vitelline ball is separated by a wide albumen-filled space from the outer white shell; but the shell itself is thin. Claparède, in the mites' eggs which he describes, speaks of a space between the outer shell (his "Schale" or "Dotterhaut") and the contents inside; but, while he describes a thin layer around the dense yolk-ball, the "Keim-haut," which is not really an egg-membrane at all, but a thin layer of germinal protoplasm, he mentions a third layer or skin, which he distinguishes as the "Zwischenhaut"; and the vitelline ball is thus surrounded by three membranes. The outermost is a true chorion produced not by the yolk but by the epithelial cells of the oviduct, whereas a vitelline membrane or zona radiata is always a product of the vitellus or egg itself. The chorion in the egg of *Hydrachna* is hard like horn and extremely granular in appearance, as though studded all over with grains or minute papillæ, each papilla, under a high power, apparently exhibiting a puncture (fig. 2). I tried various experiments in order to prove the existence of pores or canals in the shell, and of a wide space separating the shell from the yolk-ball inside. I subjected some eggs to great pressure under a cover

* Op. cit., p. 451.