

entire body is known, as we have but few entire individuals and but one shows embryonic characters.

The heads of the species associated with *Olenellus Gilberti* and *O. Idingsi* are small, but they do not present any recognized embryonic features.

As already stated, the suture lines shown for *O. Gilberti* are purely imaginary in the type figures (Geog. and Geol. Surv. West 100th Merid., vol. iii, pt. 1, pl. ii, figs. 3a-c), and their course is, in all probability, as in other species of the genus.

Mention has been made of *Olenellus asaphoides* and of certain resemblances in the contour of its head at the stage of development represented by fig. 3a, pl. xx, and that of the head of *O. Gilberti* as seen in figs. 1e, 1f, 1g, &c. The curious interocular spines of the former have not been seen in *O. Gilberti*. Mr. Ford has called attention to the Paradoxides-like run of the posterior margin of the head, *g x, x g*, fig. 3a, and states that it disappears altogether during the embryonic life of that species. We have shown that it is extravagantly developed in *O. Gilberti*, even to the extent of changing the entire contour of the head, figs. 1d, 1f, and 1g, and that it persists in the adult stage of many individuals of this species, and is also present in *Mesonacis Vermontana*.

In all the observed specimens of *O. Gilberti* showing the facial suture back of the eye, the posterior margin is cut at the angle within the postero-lateral angle, as Mr. Ford has pointed out for the form, fig. 3a, of *O. asaphoides*, and also for the genus *Paradoxides*.

Attention is again called to the direction of the facial suture back of the eyes in figs. 1e and 1g and the position and obliquity of the eyes in relation to the median line of the glabella, characters of *Paradoxides*, as seen in *P. spinosus*. Of all the species of the latter genus, *P. Kjerulfi* (Öfversigt k. Svensk. Vet.-Akad. Förhandl. N:o 6, p. 790, Tafl. xvi, figs. 1, 2. Stockholm, 1871) alone shows the presence of an ocular ridge uniting the eye and the frontal lobe of the glabella (fig. 2, pl. xx), a feature so prominent in the young of *O. Gilberti*, as well as the small rounded protuberance between the eyes and the glabella, shown in Linnarsson's fig. 2 of *P. Kjerulfi*. The latter character Mr. Ford discovered in the young of *O. asaphoides*, and noted its resemblance to the same in *P. Kjerulfi*. The ocular ridge, a feature in the latter that is permanent, is also present in the young and adult of *O. Gilberti* and in *O. Thompsoni*.

*Résumé.*—The study of the head of *O. Gilberti*, proves:

First. That in certain individuals of this species the existence of embryonic features continues long after the individual has reached the size at which such features are usually lost in the process of development of the other species of the genus.

Secondly. That, in individuals otherwise developed equally in all respects, some one of them may have a characteristic feature, such as the eye or the genal angle developed to a greater or less degree than in the