pelagic species, but were always filled with minute swarm spores about 0·005 mm. in diameter. When a specimen was placed on a slide and crushed with a cover glass, then examined by a high power, a cloud of these minute bodies, with a flagellum at one end and a pellucid spot at the other, spread over the field of the microscope; there was a bubble of air or gas in each shell. A similar condition was observed once in *Globigerina sacculifera* and once in *Pullenia obliquiloculata*.

The colour of the sarcode in the pelagic Foraminifera is sometimes bright red, as in *Hastigerina* and *Pullenia*; in *Globigerina* it is yellow, orange, or of a delicate rose colour; in *Pulvinulina micheliniana* it has occasionally a decidedly greenish tinge.

When observed floating on the surface, the larger part of the sarcode is usually outside the shell, so that the latter may not be noticed owing to the dense mass of

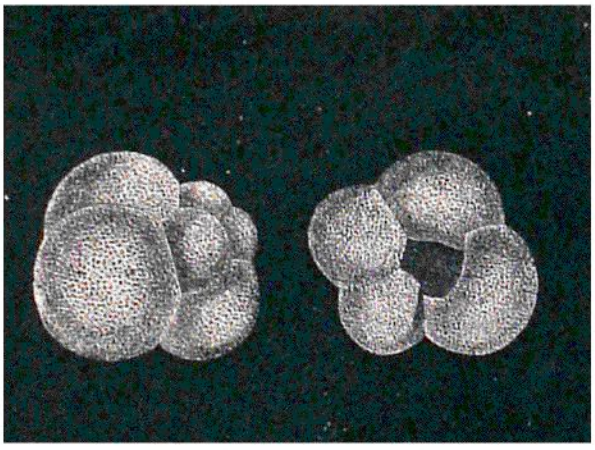

FIG. 308.—*Globigerina bulloides* (d'Orbigny), from the deposits. Tropical regions of the Atlantic.

protoplasmic matter with which it is enveloped. The pseudopodia ramify to a great distance from the shell, and balloon-like expansions of the sarcode are thrown out between the spines of a shell like *Hastigerina*; over these and along the spines, the pseudopodia move freely and rapidly (fig. 305). In the species without spines, this float-like arrangement was never observed fully expanded; the contact of the tow-net having evidently caused a collapse and a contraction of the sarcode close about the shell. On one or two occasions, however, the floats of *Pulvinulina* and *Pullenia* were seen partially expanded.

In *Orbulina* there are almost always a great number of yellow cells similar to those found in the Radiolaria; they are oval and about 0·01 mm. in the longest diameter, and have a nucleus which colours quickly with carmine, before treatment with spirit. On several occasions they were seen to flow out from the interior of the shell with the