

with a preliminary knowledge of the facts, that the recent shells, both of *N. Pompilius* and *Spirula*, are formed by existing Cephalopods; and we hope, through them, to be enabled to illustrate the history of the countless myriads of similarly constructed fossil shells whose use and office has never yet been satisfactorily explained.

We may divide these fossils into two distinct classes; the one comprising external shells, whose inhabitants resided, like the inhabitant of the *N. Pompilius*, in the capacious cavity of their first or external chamber (Pl. 31, Fig. 1); the other, comprising shells, that were wholly or partially included within the body of a Cephalopod, like the recent *Spirula*, (Pl. 44, Figs. 1, 2). In both these classes, the chambers of the shell appear to have performed the office of air vessels, or *floats*, by means of which the animal was enabled either to raise itself and float near the surface of the sea, or sink to the bottom.

It will be seen by reference to Pl. 31, Fig. 1,* that in the recent *Nautilus Pompilius*, the only organ connecting the air chambers, with the body of the animal, is a pipe, or *siphuncle*, which descends through an aperture and short projecting tube (y) in each successive transverse plate,

* The animal is copied from Pl. 1. of Mr. Owen's memoir; the shell from a specimen in the splendid and unique collection of my friend W. J. Broderip, Esq., by whose unreserved communications of his accurate and extensive knowledge in Natural History, I have been long and largely benefitted.