

loon, and thus increasing its specific gravity, causes it to sink; when the pressure is removed, the air within the chamber expands and expels the water, the specific gravity of the balloon is diminished, and it again rises.\*

I shall conclude this attempt to illustrate the structure and economy of fossil Nautili by those of the living species, with shewing in what manner the chambers of the pearly Nautilus, supposing them to be permanently filled *only* with air, and the action of the siphuncle, † supposing it to be the receptacle *only* of a fluid, interchanging its place alternately from the siphuncle to the pericardium, ‡ would be subsidiary to the movements of the animal, both on the surface, and at the bottom of the sea.

First, The animal captured by Mr. Bennett, was seen floating at the surface, with the upper portion of the shell raised above the water and kept in a vertical position by means of the included air (see Pl. 31, Fig. 1.); this position

the pipe was ruptured, or the external shell broken, the earthy sediment, in which such broken shells were lodged, finding through these fractures admission to the air chambers, has filled them with clay, or sand or limestone.

\* See Sup. Note.

† The substance of the siphuncle is a thin and strong membrane, surrounded by a coat of muscular fibres, by which it could contract or expand itself, in the process of admitting or ejecting any fluid to or from its interior. (See Owen's Memoir, p. 10.) In our first edition it was stated erroneously that the siphuncle had no appearance of muscular fibres.

‡ See Sup. Note.