

consequently of design, a few of which I shall endeavour briefly to point out.

External Shell.

The use and place of the shells of Ammonites has much perplexed geologists and conchologists. Cuvier and Lamarck, guided by the analogies afforded by the Spirula, supposed them to be internal shells.* There is, however, good reason to believe that they were entirely external, and that the position of the body of the animal within these shells was analogous to that of the inhabitant of the Nautilus Pompilius. (See Pl. 31, Fig. 1).

* The smallness of the outer chamber, or place of lodgment for the animal, is advanced by Cuvier in favour of his opinion that Ammonites, like the Spirula, were internal shells. This reason is probably founded on observations made upon imperfect specimens. The outer chamber of Ammonites is very seldom preserved in a perfect state, but when this happens, it is found to bear at least as large a proportion to the chambered part of the shell, as the outer cell of the N. Pompilius bears to the chambered interior of that shell. It often occupies more than half, (see Pl. 36. a. b. c. d.) and, in some cases, the whole circumference of the outer whorl. This open chamber is not thin and feeble, like the long anterior chamber of the Spirula, which is placed within the body of the animal producing this shell; but is nearly of equal thickness with the sides of the close chambers of the Ammonite.

Moreover, the margin of the mature Ammonite is in some species reflected in a kind of scroll, like the thickened margin of the shell of the garden snail, giving to this part a strength which would apparently be needless to an internal shell. (See Pl. 37. Fig. 3. d.)

The presence of spines also in certain species, (as in A.