

the molluscous animal effects the removal of large portions of its shell, when they interfere with its own growth, or are otherwise productive of inconvenience. We should at the same time regard these cases in the light of exceptions to the ordinary rule, that a portion of shell once formed remains ever after unchanged, while it continues to be connected with the animal which produced it. In a general way, indeed, we may consider the connexion between the animal and the shell as mechanical, rather than vital; and the shell itself as an extraneous inorganic body, forming no part of the living system: for whatever share of vitality it may have possessed at the moment of its deposition, all trace of that property is soon lost. Accordingly, we find that the holes made in shells by parasitic worms are never filled up, nor the apertures of the cavities so made covered over, unless the living flesh of the animal be wounded; in which case an exudation of calcareous matter takes place, and a pearly deposite is produced. The worn edges of shells, and the fractures, and other accidents which befall them, are never repaired, except as far as such repairs can be made by the addition of materials from the secreting surfaces of the mantle. It is found that shells may be impregnated with poisonous metallic salts, such as those of copper, without any detriment to the animals they enclose.

The power of secreting the materials of shell does not usually extend to the whole of the surface of the mantle, but is generally confined to the parts near the margin, composing what is termed *the collar*. The calcareous substance is always poured out underneath the epidermis,* that is, between this outermost layer of integument, and the subjacent corium, which is incorporated with the mantle, and may be regarded as forming one and the same organ.†

* Mr. Gray considers the external membrane of the shell, or epidermis, as formed by the outer edge of the plates of animal substance, which have scarcely any calcareous matter in their composition, and which are soldered together into a membranous coat.

† A secreting power is also, in some instances, possessed by the foot, as is exemplified in some of the gastropoda, where it forms an operculum, or