recognised. The state of perfection in which many delicately ornamented shells occur, is such as to leave little doubt of their having been quietly entombed on or near the spots where they lived in the deep sea; while in other cases the disunion of valves and the fragmentary state, even of the most solid shells, recall to our memory the agitation of waves over the sands and pebbles of the shore.

The hard calcareous coverings of mollusca are perfectly preserved in a fossil state, but it is a rare thing to find a trace of the perishable parts; even the semi-calcareous hinge ligament of bivalves is rarely observed in cardia and veneridæ.

Among recent shells the most contrasted appearances of structure are those presented by the oyster, which is lamellar, and the venus, which is, apparently, compact, and the internal plate of the cuttle, which is of a fibrous nature. All are full of carbonate of lime, as a hardening earth, and all mixed with membranous gelatine, which, by its different arrangements, determines the above and other interior structures.* It is remarkable that oysters, and shells which like them are composed of distinct broad lamellæ of alternating membrane and carbonate of lime, have resisted in almost all rocks, argillaceous, calcareous, arenaceous, the chemical changes to which veneridæ, trigoniæ, and others of an apparently compact texture, have completely yielded. While the former retain their lamellæ and pearly surfaces, the latter have often been wholly dissolved in limestone rocks, and their places left vacant; while a cast of the inside of the shell, and an impression of the outside, disclose completely the history of the change. A further process is frequently superadded, by which the cavity is again partially or wholly filled with crystals of carbonate of lime, which has been introduced by filtration through the surrounding rock. In other cases siliceous matter, pyrites, and other substances, have passed by a similar process. The common fossil called belemnites, of the same group as the cuttle,

* See Mr. Gray on the Structure of Shells in Phil. Trans.