

Organized Remains deposited from Water, but not from a Transient Deluge.

It is scarcely possible to doubt, that the process of animal and vegetable deposition in a mineralized state described above, was that which really happened. Whatever may have been the operations of fire, at preceding or subsequent periods, it is impossible that it should have been concerned in the first formation of the mineral strata, which contain numerous organized remains. Animal or vegetable life could never be produced or sustained in the midst of fire; and indeed, it is quite incredible, that strata, containing distinct organized remains, were ever melted; nor is it easy to imagine, that they could be even softened, in any great degree, without destroying or materially deranging the organized structure.*

It appears evident also that the mineralized plants and animals of the solid strata have not been collected in these situations, by any sudden and local, or even general catastrophe, for as an author remarks, "among the immense number of fossil shells, many are remarkable for their extreme thinness, delicacy and minuteness, of parts, none of which have been injured, but on the contrary are most perfectly preserved." Among the plants of the coal formation situated sometimes hundreds and thousands of feet below the surface, and covered by many beds of solid rocks, their leaves, many of which are of the most tender and delicate structure, are often found fully expanded, in their natural position, in regard to the rest of the plant, and laid out, with as much precision as in the *hortus siccus* of a botanist. It is often true that the minutest parts do not appear to have suffered attrition or injury of any kind.

Fragmentary Rocks.

The rocks composed of fragments and rounded water worn pebbles afford us the strongest evidence of progressive destruction, deposition and consolidation.

Among the transition rocks, we find (in general) for the first time, fragments both rounded and angular of all the previous rocks; some-

* *October 21, 1833.*—A day or two since, I observed a common hard baked brick, lying in the pavement of a street in this town, (New Haven, Conn.) bearing a distinct and beautiful impression of a scallop shell (pecten); the shell was gone, being doubtless destroyed by the fire, while its impress remained. Strata that have been ignited may therefore retain the forms of organic bodies, which would of course be destroyed by the heat.