

where between Canada and Alabama. How stupendous must have been the force, thus to fold up the vast strata of the mountains, as if they were merely the leaves of a book! Yet how easy for Him who directs and energizes the forces of nature! The manner in which these forces have operated will be better understood after we have developed the doctrine of internal heat.

CONCRETIONARY STRUCTURES.

In clay beds containing disseminated carbonate of lime, we frequently find nodules of argillo-calcareous matter, sometimes spherical, but more usually flattened. These are generally called *claystones*, and the common impression is, that that they were rounded by water. But they are the result of a tendency of particles to gather about a common center, called molecular attraction. The slaty divisions of the clay extend through the concretions; and on splitting them open, a leaf, a fish, a shell, or some other organic relic is frequently, but not invariably found. In New England, however, the slaty structure, and the organic nucleus are generally wanting.

Fig. 20.



Fig. 20 will convey an idea of the manner in which these concretions are situated in the clay.

The claystones of New England have been classified according to their shapes. There are at least six predominant forms; all of which seem to start with the sphere. A combination of several of the primary forms sometimes produces mimic resemblances to familiar objects.

