

remains, is an accurate and extensive knowledge of zoology and botany. This will enable the observer to ascertain whether the species found in the rocks are identical with those now living on the globe.

The second important requisite is a knowledge of comparative anatomy; a science which compares the anatomy of different animals and the parts of the same animals.

This recent science reveals to us the astonishing fact, that so mathematically exact is the proportion between the different parts of an animal, "that from the character of a single limb, and even of a single tooth, or bone, the form and proportion of the other bones, and the condition of the entire animal, may be inferred."—"Hence, not only the framework of the fossil skeleton of an extinct animal, but also the character of the muscles, by which each bone was moved, the external form and figure of the body, the food, and habits, and haunts, and mode of life of creatures that ceased to exist before the creation of the human race, can with a high degree of probability be ascertained."

CLASSIFICATION OF LIVING PLANTS AND ANIMALS.

It is essential that the learner should have some idea of the great Classes and Families of living Plants and Animals, in order to form an idea of those in a fossil state. For both groups are brought into the same great system of life. And since the living species are more numerous and perfect than any that have preceded them, the former are taken as the standard by which to arrange the latter.

A Flora consists of a species of plants that occupy any given district.

A Fauna consists of the species of animals in a district.

The following are the classes and leading families of living plants commencing with the most perfect, and terminating with the least perfect. We follow the arrangement adopted by Prof. Asa Gray.

VEGETABLE KINGDOM.

Series 1.—FLOWERING PLANTS, OR PHANEROGAMIA.

Plants which produce real flowers with stamens, pistils and seeds.

Class 1.—EXOGENS OR DICOTYLEDONS.

Plants increase by rings on the outside, the seed opening into two or more parts, or seed leaves, called cotyledons. Most common trees and herbs.

Class II.—ENDOGENS OR MONOCOTYLEDONS.

Not increasing by external rings, but by threads or bundles of fibres from within. The leaves have parallel, not branching veins. Embraces most grasses, rushes, and bulbous plants; also palms, the most remarkable of plants. The seed has only one cotyledon.