

The mineral masses which constitute the *sedimentary rocks* form beds, or *strata*, having among themselves a constant order of superposition which indicates their relative age. The mineral structure of these beds, and the remains of the organised beings they contain, impress on them characters which enable us to distinguish each bed from that which precedes and follows it.

It does not follow, however, that all these beds are met with, regularly superimposed, over the whole surface of the globe; under such circumstances geology would be a very simple science, only requiring the use of the eyes. In consequence of the frequent eruptions of granite, porphyry, serpentine, trachyte, basalt, and lava, these beds are often broken, cut off, and replaced by others.

Denudation has been another fruitful source of change. Professor Ramsay* shows, in the "Memoirs of the Geological Survey," that beds once existed above a great part of the Mendip Hills to the extent of at least 6,000 feet, which have been removed by the denuding agency of the sea; while in South Wales and the adjacent country, a series of Palæozoic rocks, eleven thousand feet in thickness, has been removed by the action of water. In fact, every foot of the earth now forming the dry land is supposed to have been at one time under water—to have emerged, and to have been again submerged, and subjected to the destructive action of the ocean. At certain points a whole series of sedimentary deposits, and often several of them, have been removed by this cause, known by geologists as *Denudation*. The regular series of rock formations are, in fact, rarely found in unbroken order. It is only by combining the collected observations of the geologists of all countries, that we are enabled to arrange, according to their relative ages, the several beds composing the solid terrestrial crust as they occur in the following Table, which proceeds from the surface towards the centre, in descending order:—

ORDER OF STRATIFICATION.

Quaternary Epoch . . .	Modern Period.
Tertiary Epoch . . .	{ Pliocene Period.
	{ Miocene Period.
	{ Eocene Period.
	{ Cretaceous Rocks.
Secondary Epoch . . .	{ Jurassic Rocks.
	{ Triassic Rocks.
	{ Permian Rocks.
Primary Epoch . . .	{ Carboniferous Rocks.
	{ Devonian Rocks.
	{ Silurian Rocks.
Metamorphic Series . . .	{ Cambrian Rocks.
	{ Fundamental Gneiss, or Laurentian.

* "Memoirs of the Geological Survey of Great Britain," vol. i., p. 297.