

CHAPTER XXVII.

SILURIAN AND CAMBRIAN GROUPS.

Silurian strata formerly called Transition—Term *Grauwacké*—Subdivisions of Upper, Middle, and Lower Silurians—Ludlow formation and fossils—Ludlow bone-bed, and oldest known remains of fossil fish—Wenlock formation, corals, cystideans, trilobites—Middle Silurian or Caradoc sandstone—Its unconformability—Pentameri and Tentaculites—Lower Silurian rocks—Llandeilo flags—Cystidæ—Trilobites—Graptolites—Vast thickness of Lower Silurian strata in Wales—Foreign Silurian equivalents in Europe—Ungulite grit of Russia—Silurian strata of the United States—Amount of specific agreement of fossils with those of Europe—Canadian equivalents—Deep-sea origin of Silurian strata—Fossiliferous rocks below the Llandeilo beds—Cambrian group—*Lingula* flags of North Wales—Lower Cambrian—Oldest known fossil remains—“Primordial group” of Bohemia—Characteristic trilobites—Metamorphosis of trilobites—Alum schists of Sweden and Norway—Potsdam sandstone of United States and Canada—Footprints near Montreal—Trilobites on the Upper Mississippi—Supposed period of invertebrate animals—Upper Silurian bone-bed—Absence of fish in Lower Silurian—Progressive discovery of vertebrata in older rocks—Inference to be drawn from the greater success of British Paleontologists—Doctrine of the non-existence of vertebrata in the older fossiliferous periods premature.

WE come next in the descending order to the most ancient of the primary fossiliferous rocks, that series which comprises the greater part of the strata formerly called “transition” by Werner, for reasons explained in chap. viii., pp. 91 and 93. Geologists were also in the habit of applying to these older strata the general name of “*grauwacké*,” by which the German miners designate a particular variety of sandstone, usually an aggregate of small fragments of quartz, flinty slate (or Lydian stone), and clay-slate cemented together by argillaceous matter. Far too much importance has been attached to this kind of rock, as if it belonged to a certain epoch in the earth’s history, whereas a similar sandstone or grit is found in the Old Red, and in the Millstone Grit of the Coal, and sometimes in certain Cretaceous and even Eocene formations in the Alps.

The name of *Silurian* was first proposed by Sir Roderick Murchison for a series of fossiliferous strata lying below the Old Red Sandstone, and occupying that part of Wales and some contiguous counties of England which once constituted the kingdom of the *Silures*, a tribe of ancient Britons. The following table will explain the various formations into which this group of ancient strata may be subdivided.