

claimed that Hitchcock held a similar view. It will be seen that these geologists thus united in one group, the schists of the Hoosic range (regarded by Emmons as primary), with those of the Taconic range, and referred both to the age of the Champlain division, the whole of which was supposed to be included in the group.

In the same address Professor Rogers raised a very important question. Having referred to the Potsdam sandstone, which on Lake Champlain forms the base of the paleozoic system, he inquires, "Is this formation then the lowest limit of our Appalachian masses generally, or is the system expanded downward in other districts by the introduction beneath it of other conformable sedimentary rocks?" He then proceeded to state that from the Susquehanna River, southwestward, a more complex series appears at the base of the lower limestone than to the north of the Schuylkill, and in some parts of the Blue Ridge he includes in the primal division (beneath the Calciferous sandrock) "at least four independent and often very thick deposits, constituting one general group, in which the Potsdam or white sandstone (with *Scolithus*) is the second in descending order." This sandstone is overlaid by many hundred feet of arenaceous and ferriferous fucoidal slate, and underlaid by coarse sandy shales and flagstones; below which, in Virginia and East Tennessee, is a series of heterogeneous conglomerates, which rest on a great mass of crystalline strata. The accuracy of these statements is confirmed by Safford, who, in his recent report on the geology of Tennessee (1869), places at the base of the column a great series of crystalline schists, apparently representatives of those of southeastern Pennsylvania. Upon these repose what Safford designates as the Potsdam group, including, in ascending order, the Ocoee slates and conglomerates, estimated at 10,000 feet, and the Chilhowee shales and sandstones, 2,000 feet or more, with fucoids, worm-burrows and *Scolithus*. These are conformably overlaid by the Knoxville division, consisting of fucoidal sandstones, shales, and limestones, the latter two holding fossils of the age of the Calciferous sandrock. It is noteworthy that these rocks are greatly disturbed by faults, and that in Chilhowee Mountain the lower conglomerates are brought on the east against the Carboniferous limestone, by a vertical displacement of at least 12,000 feet. The general dip of all these strata, including the basal crystalline schists, is to the southeast.

The primal paleozoic rocks of the Blue Ridge were then by Rog-