The crystalline rocks of St. Davids, in Wales, have been described by Dr. Hicks as of three periods: (1) the Dimetian; (2) the Arvonian; and (3) the Pebidian. Geikie concluded, after an examination of the region, that the Dimetian rocks are intrusive granite; the Arvonian, "quartz-porphyries" connected with the granite; and that the Pebidian rocks are tufas and diabases belonging to the lowest Cambrian. Dr. Hicks's view that the St. Davids rocks are partly Archæan is favored by the presence in the vicinity of fossiliferous Cambrian. It is now adopted by Geikie.

In the Torridon district, northwestern Scotland, a thick formation of reddish and brownish sandstones, wholly uncrystalline in texture, but upturned to a high angle, lies unconformably both upon Archæan gneisses and underneath strata of Lower or Olenellus Cambrian. The reported thickness is 4000 to 8000 feet. As they are unfossiliferous, it remains doubtful whether the Torridon sandstone, or "Torridonian group," should be referred to the later Archæan, or to the earliest Paleozoic. Murchison referred them to the Cambrian.

OBSERVATIONS ON THE ARCHÆAN.

1. **Relations of the North American Archæan areas to the continent.** — The position and form of the nucleal Archæan of the continent, and of the parallel ranges on either side, reaching out to the oceans, prove that the continent was not only outlined, but also marked off as regards its grander features in Archæan time. This is established also by the great thickness of metamorphic rocks; for rocks of sedimentary or detrital origin are not made except where there are emerged, or nearly emerged, rocks to be a source of material; and even a slight submergence makes the amount of decay, and of detritus produced, small. Further, the existence of the continents, emerged or at shallow depths, is evidence, as explained on page 380, that the oceanic basin also was defined by the close of the Archæan, and had nearly its present mean depth of 12,000 feet.

The facts thus prove that the scheme of progress, even to minor details, dates from the beginning. In the very inception of the continent, not only was its general topography foreshadowed, but its main mountain chains appear to have been begun, and its great intermediate basins to have been defined. The evolution of the grand structure lines of the continent was hence early commenced, and the system thus initiated was the system to the end. Tracing out the development of the American continent, from these Archæan beginnings, is one of the main purposes of geological history.

2. **Correlation of Archæan subdivisions.** — Names of Archæan subdivisions are multiplying over the world wherever Archæan rocks are studied. The uncrystalline terranes are safely put at the top of the series in the particular region where they occur; but, as already remarked, they may be the equivalents of crystalline kinds in another more mountainous region.