

various gneiss, schist, limestone, quartzite, and conglomerate formations, which, not being easily separable from the foliated granite rocks, have been sometimes classed with the latter as Laurentian.

THE UPPER DIVISION.

Nomenclature.—The upper division is of very varied lithological character, and various names have been applied to it, or to portions of it, in different regions. Until recently it has been customary to apply the term Huronian to a part of this upper division on account of its supposed equivalence to the series of rocks so named by Logan and Hunt in 1855.* But if the original conceptions of these eminent geologists and the more recent contentions of Irving, corroborated by Professors N. H. Winchell and A. Winchell, are correct—viz., that the Huronian and Animikie are geologically equivalent,—then we cannot in reason perpetuate the incongruity of applying the same name to two groups of rocks which lie one on either side of probably the greatest hiatus in American geological history. The term Huronian must be retained for the group of rocks on Lake Huron first so named and its equivalents; and, in view of the evidence which has been adduced of the unconformable superposition of that group upon the Archean and its probable equivalence with the Animikie, which rests upon the Archean in glaring unconformity, it seems inappropriate at present to apply the term Huronian to any portion of the Archean. We are thus, at the outset of any inquiry into the Archean, hampered by the lack of an acceptable designation for the great system of rocks which constitutes its upper division. Even if the Huronian group be demonstrated to lie upon the remote side of the great post-Archean hiatus, it would then be only one of several groups that go to form the system which constitutes the upper division of the Archean complex, and the system itself would still be nameless. At least one other great group of rocks—the Couthiching (possibly the equivalent of the Montalban of Hitchcock)—has been brought to light, which is not second in taxonomic importance to the various belts of rocks similar to the Keewatin, which have been correlated with the Huronian. So, granting that the Huronian shall one day hold an unchallenged position in Archean taxonomy, it will not have a higher rank than that of a group.†

* A Sketch of the Geology of Canada, serving to explain the Geological Map and the Collection of Economic Minerals sent to the Universal Exhibition at Paris, 1855, by W. E. Logan and T. Sterry Hunt; in Canada at the Universal Exhibition of 1855, p. 415 *et seq.* In this sketch, in which the term Huronian is first defined, the rocks now known as the Animikie and Nipigon series are taken together as the equivalent of rocks on Lake Huron, and the whole is called the "Huronian or Cambrian system," which is stated to rest unconformably upon the Laurentian.

† In this paper the terms "system" and "group" have the significance assigned to them by the United States Geological Survey, in the scheme published in the Second Annual Report, 1880-'81, p. xlviii. The writer recognizes, however, two great "systems" in the Archean complex. The terms may later be transposed or otherwise changed to accord with any general decision of the International Geological Congress as to usage.