

or *strata*, or *band*, or *zone*, or *section*, always limited to a part only of a great geographical division and entirely local, vary according to places in regard to their importance and stratigraphical values. Some are confined to a few square miles and even one or two quarries or sections. In the "Tabular View" I have indicated very slightly in a special column that fifth order, because each part of the country and almost each state or province need such special subdivisions, often entirely limited to each one.

In order to show what they are, I have written on the "Tabular View" two or three examples only. In the very narrow St. John basin in New Brunswick, Mr. G. F. Matthew, who has worked out so well the St. John formation of the Middle Taconic, gives for the succession of members, first, five groups or *sub-étages*, numbered 1, 2, 3, 4 and 5; and each group is subdivided into belts called by him "bands" or "zones," or "sections." For instance, No. 1 is divided into bands *a*, *b*, *c* and *d*, each one characterized by special fossils and a special lithology.

In Texas Mr. R. T. Hill has lately shown that the Neocomian can be divided into two groups or *sub-étages*, called "Lower or Comanche Peak Division," also called afterward "Fredericksburg Division," and "Upper or Washita Division;" and then in each of those groups he gives subdivisions in beds, such as "Hippurites limestone," etc. In the tabular view, I have numbered the four beds of the Comanche Peak group. In New York, I have also numbered the five beds or the subdivisions of the Lower Helderberg.

I have not indicated in the tabular view any groups or division of the fourth order for the Lower Taconic, the Upper Carboniferous or Coal Measures, the Dyas, Trias, Jura and Upper Tertiary, because the study of these strata has not yet been carried out with sufficient details. However, the existence of the Rhetic, Sinemurian and Purbeckian indicated in the American Trias and Jura, shows already that important general groups may be recognized and created in those systems.

SYNCHRONISM AND HOMOTAXIS.

The synchronism and homotaxis of the divisions of the second order or systems, for the whole northern hemisphere, can be easily established, only the work should be done by practical geologists made well acquainted by studies in the field, not only with a more or less extensive country, but also with vast regions of the Old