

NEW YORK SYSTEM.	ROGERS' CLASSIFICATION.	THICKNESS IN PENN.
Conglomerate,	<i>Vespertine Series.</i> Lower conglomerate of the carboniferous.	2600
	<i>Umbral Series.</i> Red shales and limestone.	3000
Carboniferous limestone in other States.	<i>Seral Series.</i> Conglomerate, Coal measures, Permian or upper coal measures.	1100 2500

Several attempts have been made to make out a classification founded upon Palæontology; that is, organic remains. This subject will be better understood after that of Palæontology has been described. But we will present it in brief in this place, premising only, that in the different formations we find different groups of animals and plants, often characterized by the great predominance of some particular races. These life periods correspond in general to the other characters by which different formations are distinguished; so that a palæontological division will correspond essentially to one that is lithological, and this to one founded on the conformity or unconformity of stratification. The system below is that adopted by Prof. Pictet. His large Groups he calls Periods, and the subdivisions, Epochs. Properly speaking, however, an Epoch is the point of time when an event takes place, and a Period the interval between successive Epochs,

1. PALÆOZOIC PERIOD.

First Epoch, Silurian.  
Second Epoch, Devonian.  
Third Epoch, Carboniferous.  
Fourth Epoch, Permian.

2. SECONDARY PERIOD.

First Epoch, Triassic.  
Second Epoch, Jurassic.  
Third Epoch, Cretaceous.

3. TERTIARY PERIOD.

Tertiary Epoch.

4. QUATERNARY AND MODERN PERIOD.

Diluvian and Modern Epoch.

The Palæozoic Period was distinguished, 1. By the entire absence of mammiferous animals and birds. 2. By the presence of many genera of shells called Cephalopods, like the Nautilus, of a peculiar structure, not found afterwards; also by a great number of another family called Brachiopods, which subsequently mostly disappeared; 3, by the existence of large numbers of crustaceans, called Trilobites, of which we find no trace afterwards; 4, by the presence of a great number of singular animals, called Crinoids, which nearly all disappeared in the subsequent formations; and 5, by Polypi or corals of peculiar types and characters.

The Secondary Period was characterized, 1, by the fewness and small size of the Marsupial Quadrupeds, which then existed; 2, by an enormous development, both as to numbers and size, of reptiles of peculiar character; 3, by beautiful groups of the shells called Ammonites, (like the Nautilus), of a peculiar structure; 4, by tribes of Echinoderms, (like Sea Stars), altogether different from those of the first Period; 5, by Polypi, with peculiar characters.

The Tertiary Period was characterized, 1, by the appearance of great numbers of mammiferous animals; 2, by an approach to living forms in the rep-