§ 5. Thus far we suppose the observer to have been chiefly occupied in considering the character of the rocks as they are in themselves, and developing their arrangement with a view to

formations, Werner or his disciples found it necessary to subdivide the bulky class of flœtz rocks into flœtz and newest flœtz, thus completing a fourfold enumeration: other writers, adopting the transition class, have yet retained the term secondary as applied to the flœtz rocks of Werner, but this nomenclature lies open to the heavy objection already indicated, namely, that the term secondary, being opposed to primitive only, ought to include all rocks not of that class, and of course the transition order among the rest. These writers have bestowed the name tertiary on the newest flœtz class of the Wernerians. A synoptical and comparative view of the arrangement proposed in the present work and those of former writers is subjoined.

Character.	Proposed names.	Wernerian names.	Other writers.
1. Formations (chiefly of *sand & clay*) *above the chalk.*	*Superior order.*	Newest flœtz class	Tertiary class.
2. Comprising *a. Chalk.* *b.* sands & clays *beneath the chalk* *c.* calcareous free-stones (*oolites*), & argillaceous beds. *d. New red sand-stone, conglome-rate & magne-sian limestone.*	*Supermedial order.*	Flœtz class.	Secondary class.
3. Carboniferous rocks, comprising *a. Coal-measures.* *b. Carboniferous limestone.* *c. Old red sandstone*	*Medial order.*	Sometimes referred to the preceding sometimes to the succeeding class by writers of these schools; very often the coal-measures are referred to the former—the subjacent limestone and sandstone to the latter.	
4. *Roofing slate, &c. &c.*	*Submedial order.*	Transition class.	*Intermediate class*
5. *Mica slate.* *Gneiss.* *Granite, &c.*	*Inferior order.*	Primitive class.	Primitive class.

In all these formations, from the lowest to the highest, we find a repetition of rocks and beds of similar chemical composition, i. e. siliceous, argillaceous, and calcareous, but with a considerable difference in texture, those in the lowest formations being compact and often crystalline, while those in the highest and most recent are loose and earthy. These repeti-