

In the above sections it will be seen, that though there is a great general resemblance between the principal members in each series, there is a considerable difference in the number and succession of the minor beds; there is also some diversity in the fossils in each series. By a comparison of both sections, it will appear, that the attempt to establish an identity of beds, or even of what are called equivalents in the minor strata of a great formation in different districts, is a useless labour, and serves only to perplex the student, without leading to any useful conclusions. Nor do I think the long lists of marine shells, in a formation decidedly marine, can be of any great use, unless such shells discover some new forms of organic life distinct from what has been before observed, or enable us to infer some change in the condition of the globe, when the inhabitants of such shells first appeared. The section of Mr. J. Phillips, being a coast section, has the disadvantage of not being made in the true line of dip, and that of Mr. Lonsdale was unavoidably taken in different situations where the upper and under strata were not always displayed; hence such sections can be regarded as only valuable approximations to truth in each district. In Yorkshire, the Kimmeridge clay is wanting, and the oolites are covered by the chalk formation, in the lower part of which, called the Speeton clay, some fossils of the Kimmeridge clay were discovered.

The imperfect coal formations in the Yorkshire oolites, contain impressions and remains of fossil plants of the same families as those in the regular coal formation, but which are stated by M. Adolphe Brongniart to belong to different species.

The attempt has been frequently made, to identify the secondary strata of Germany with those of England. The following abridged view of the secondary strata in the north-east part of Bavaria, in Bohemia, and in Westphalia, by R. J. Murchison, Esq. taken partly from his own observations, and partly from what he believes to be the best authorities, appears to be the most satisfactory and intelligible approximation to the English series of secondary formations that has yet been made: it confirms the previous statement given by Professor Sedgwick and Mr. Murchison. The order of succession in a descending series is here given.

Chalk.	{	In Hanover, clearly separated from green-sand.
Green-sand.		Divisible into upper calcareous and lower siliceous sandstone.
Portland oolite.		Oolite and coral ragg, not yet discovered in central Germany.
Solenhoffen slate, or supposed Stonesfield slate.		Between Kehlheim on the S. E., and Pappenheim on the N. W.; the quarry at Solenhoffen is worked for lithographic stone. The fossil contents are pterodactyli, insects, crustaceous animals, and tellenites, with certain plants: these fossils are similar to those found in Stonesfield slate, and occur in a similar geological position.
Middle oolite. Jura kalk.		The beds of this formation differ much in their mineral characters in different parts of Germany, but contain many of the fossils in the English middle oolites.