of similar fossil remains in deposits of different geological age but the same lithological character, by referring to the lignite formations below and above the coarse limestone of the Paris basin and in the Isle of Wight.

Gressly was so strongly impressed with the variability of rocks considered in horizontal succession that he discountenanced the prevailing endeavour to identify in all the other European areas the same palæontological and lithological sequence as had been established for England. In his opinion this fallacious method was preventing the foreign geologists from arriving at a true conception of the characteristics of the Jurassic succession in their own countries.

The continental study of the Jurassic system received a new impulse when Leopold von Buch published his remarkable memoir, *On the Jurassic Rocks in Germany* (1839). In short, clear sentences Leopold von Buch sketched the extension and the orographical character of the South German Jura. Above the Lias, which spreads everywhere below the higher Jurassic rocks, the northern edge of the Swabian and Franconian Alp ascends sharply from the plains in front. Isolated Jurassic hills rise amid the plain like island masses. This peculiar configuration, in Buch's opinion, is not a result of a subsequent movement of elevation or of advanced denudation, but is associated with the conditions under which the Jurassic rocks originated. He *compared the present configuration with the steep outer slope of a coral reef, and expressed his conviction that the Swabian-Franconian Alp represents the remains of such a reef.*

The tectonic disturbances, foldings, and anticlines in the Swiss Jura were said by Buch to have been connected with the Alpine upheaval; the origin of the Franconian Dolomite was traced to the occurrence of a crust-rupture extending parallel with the Bavarian Forest, into which, according to Buch, subterranean magnesia vapours escaped, and by chemical interchange the white limestone in the neighbourhood was converted into dolomite.

Buch sub-divided the South German Jurassic deposits into three chief groups: —

3. Upper or White Jura.
2. Middle or Brown Jura.
1. Lower or Black Jura (Lias).

A short description of each group was given by Buch, and a comparison drawn between the South German strata