

clearness with which he distinguished the leading members of the mountain-system. He established the fundamental distinction of a central chain composed for the most part of primitive rocks, and two lateral zones on the north and on the south of the central chain, composed chiefly of limestone, sandstone, shale, and nagelfluë. These leading zones were accurately described with respect to their geographical distribution and the various kinds of rock present in them. The resemblances and differences between the northern and southern zones were pointed out, and the leading stratigraphical features were shown in a number of geological sections. The text was further illustrated by a general geological map of the Alps and several panoramic sketches. A geological map (on small scale) of the mountain-systems of Europe was added for purposes of comparison.

In describing the Jura mountains, Ebel defined their geographical limits in accordance with their geological structure. He pointed out for the first time that the Swabian and Franconian Alb formed geologically an integral part of the Swiss Jura chain. He also drew special attention to the arched forms of structure as particularly characteristic of the Jura mountains, but failed to find any satisfactory explanation of the curvature of rock-strata.

The main features of the conformation were thus rightly laid down, but the detailed stratigraphy was less ably handled. Ebel started from the assumption that the whole outer crust of the earth is everywhere composed of the primitive rocks, granite, gneiss, and crystalline schist, and that these rocks have been in certain localities covered by pelagic or terrigenous deposits. He regarded the highly-tilted position of the rocks in the central chain as essentially characteristic of the primitive series, and accepted Alexander von Humboldt's doctrine that the primitive rocks everywhere strike in the same direction, from south-west to north-east.

In his treatment of the stratigraphical succession in the lateral Alpine zones Ebel attached little weight to the order of rock-formations enunciated by Werner, and considered it far more important to note the sequence of the fossil contents. He pointed out that the strata reposing upon the primitive group contain a few pelagic fossils; in younger strata the remains of marine faunas are much more numerous and varied; in still younger terrigenous deposits there are fossil fishes and