Septaria-clay with Leda deshayesiana.
Marine sand of Weinheim with Ostrea callifera, Pectunculus obovatus, Cytherea incrassata, Natica crassatina.

Switzerland.[76]—Nowhere in Europe do Oligocene strata play so important a part in the scenery of the land, or present on the whole so interesting and full a picture of the state of the Continent when they were deposited, as in Switzerland. Rising into massive mountains, as in the well-known Rigi and Rossberg, they attain a thickness of several thousand feet. While they include proofs of the presence of the sea, they have preserved with marvellous perfection a large number of the plants which clothed the Alps, and of the insects which flitted through the woodlands. They form part of a great series of deposits which have been termed "Molasse" by the Swiss geologists. The Molasse was formerly considered to be entirely Miocene. The lower portions, however, are now placed on the same parallel with the Oligocene beds of the regions lying to the north, and consist of the following subdivisions:

Lower Brown-coal or red Molasse (Aquitanian stage)—the most massive member of the Molasse, consisting of red sandstones, marls, and conglomerates (Nagelflue) with well-rounded mutually indented pebbles, resting upon variegated red marls. It contains seams of lignite, and a vast abundance of terrestrial vegetation.

Lower marine Molasse (Tongrian stage)—sandstone containing marine and brackish-water shells, among which are Ostrea cyathula, O. longirostris, O. callifera, Cyrena semistriata, Cytherea incrassata, Pectunculus obovatus, Cerithium plicatum, Natica crassatina. This division is well developed between Basel and Berne.

By far the larger portion of these strata is of lacustrine origin. They must have been formed in a large lake, the area of which probably underwent gradual subsidence during the period of deposition, until in Miocene times the sea once more overflowed the area. We may form some idea of

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[76] Studer's "Geologie der Schweiz," vol. ii.; Heer's "Urwelt der Schweiz," 1865 (an English translation of which by Mr. W. S. Dallas appeared in 1876); "Flora Fossilis Helvetiæ," 1854–59; A. Favre, "Description Geologique du Canton de Geneve," 1880, vol. i. p. 69.