

They were shown to be followed by deposits of brackish-water origin, *Cerithia* sands and clays charged with shells, comprised by Suess under the general term of "Sarmatian Stage." The strata of the Sarmatian Stage are extensively distributed in the south of Europe, and the fauna had already been described by De Marny and Eichwald. At the close of the Sarmatian Stage, the deposits of the North-Alpine area and the plains are essentially fresh-water deposits, comprising the *Congeris Clays*, and the *Belvedere pebble-beds*, the latter having been deposited from running water, probably by wide river-courses pouring northward from the Alps. Suess comprised the fresh-water deposits under the name of "Pontic Stage," and identified them as the equivalent of the Pliocene formation.

A few years earlier Suess had shown from the distribution of the fossil terrestrial mammals in the various Tertiary deposits, that the older marine horizons, as well as the brackish-water "*Cerithia*" sands, correspond in age with the Middle Miocene in France and Switzerland (Marine molasse, fresh-water limestone of Oeningen, upper fresh-water molasse), while the upper fresh-water formations of the Vienna basin contained the fauna of the Upper Miocene deposits of Eppelsheim, Cucuron, and Pikermi. The systematic divisions established by Suess for the Austrian deposits have been verified by later investigations, and only modified in minor particulars.

The stratigraphical knowledge of the German Tertiary deposits was late in developing. There were several difficulties to contend with, the chief obstacle being the impossibility of securing a complete section from which a definite succession could be determined. This was the more unfortunate as the fossils that were found in the scattered localities seldom permitted an exact identification with the typical Eocene and Miocene forms known to the literature. The German Tertiary deposits occur in three chief districts: the North German plain, the Tertiary basin of the Rhineland, and the Swabian-Bavarian plateau with the adjacent hilly territory of the Alpine foreground.

The neighbourhood of Mainz and Alzey first attracted the interest of geologists on account of the wealth of fossils. Colini and Faujas had described some of those in the eighteenth century and in the beginning of the nineteenth century, and Dechen, Oeynhausien, and A. Boué supplied a general de-