

coloured limestone which he had termed "Arlberg Limestone"; in Bavaria and North Tyrol the Partnach shales are succeeded by a light, pure limestone (afterwards called "Wetterstein Limestone") with *Chemnitzia* and *Diplopora annulata*. These limestones were identified by Richthofen with the Hallstatt limestone in the Salzkammergut.

Richthofen's demonstration of the occurrence of the Raibl strata in North Tyrol is especially important. Oolitic limestones and plant-bearing sandstones associated with rauchwackes and gypsum had been observed by Escher in Vorarlberg, and called Lower St. Cassian strata. The same series observed by Pichler and Gümbel in North Tyrol and Bavaria were called "Cardita Strata," from the frequency of the fossil *Cardita crenata*. Like Escher, Pichler and Gümbel also referred them to the age of the typical St. Cassian strata in South Tyrol. The occurrence of a fair number of fossils identical with those in the south Alpine Raibl strata led Richthofen to identify this group of fossiliferous strata in the northern Alps as "Raibl Strata," although he admitted that the Raibl strata in North Tyrol seemed to have a greater number of fossils in common with the St. Cassian series than was the case in the typical "Raibl Strata" at Raibl in Carinthia. He supposed, therefore, that the Raibl strata in North Tyrol were slightly older than those in the southern Alps.

The unfossiliferous calcareo-dolomitic masses of rock above the Raibl strata in Vorarlberg were compared by Richthofen with the Dachstein limestone in the Salzkammergut; in Vorarlberg, the dolomitic masses passed upward into Kössen marls and limestones with *Megalodon triqueter*. The tectonic relations in Vorarlberg were elucidated by Richthofen by means of a number of excellent geological sections.

Another work by Richthofen, which was destined to have an even wider influence upon Alpine geology than his admirable exposition of the Triassic succession in North Tyrol and Vorarlberg, was his *Geognostische Beschreibung der Umgegend von Predazzo, St. Cassian, und der Seisser Alp*. This classical work appeared as an independent publication in the year 1860, but the author's geological observations had been taken in the summer of 1856. The work was greeted on its appearance with the highest recognition from all sides, and the author, who was little over twenty at the time, was looked upon as one of the first Alpine geologists.