

ceeded by thick masses of dolomite. These were at that time termed "Fassa Dolomite" from the Fassa or Avisio Valley, the leading valley of the district.

Buch had explained the dolomitic character of the "Fassa Mountains" as the result of alteration associated with the local volcanic action, but Wissmann regarded the "Fassa Dolomite" as a normal marine deposit. With regard to the marly St. Cassian strata characterised by the richly diversified small-sized fauna, Wissmann could not find out what were the relations of this group either to the Fassa Dolomite or to the marls and shales of two other fossiliferous localities near St. Cassian, namely, the village of Wengen, and the hillslopes on which the pilgrimage chapel of "Heilig-Kreuz" had been built.

In 1843, Klipstein published a geological and palæontological account of the same districts. His observations in Abtey and Fassa valleys had been taken in unusual detail, but led to no satisfactory explanation of the tectonic relations of the district. Klipstein, who made personal collections to a certain extent and also bought largely from the village fossil-collectors, was enabled to add more than three hundred new species to the known fauna of St. Cassian. The investigation of these was unfortunately in no measure comparable with Münster's work, and the fallacious identification of a Cephalopod as *Ammonites cordatus* led Klipstein to place the Wengen shales in the Liassic formation, and as the Wengen shales pass upward into St. Cassian marls, he concluded the latter were of Jurassic age. Bronn, in a review of Klipstein's work, in 1845, expressed grave doubts about the Liassic and Jurassic age of the Wengen-Cassian series, and stated that in his opinion these shales and marls were possibly members of the Triassic formation which had remained hitherto quite unknown, and for which no comparison could be found in the German Trias, or they represented an aberrant "facies" of the Muschelkalk.

In 1844, Emmrich contributed a short communication to the *Neues Jahrbuch* on "The Stratigraphical Succession of the Flötz Series in the Gader Valley, at the Seis Alp, and St. Cassian." This work created a new era in the study of these deposits and takes its rank as one of the classic contributions to Alpine geology. In the course of a short visit to South Tyrol, Emmrich prepared geological sections from the