

The chief error in Stur's sub-division of Trias was his removal of the salt deposits from their association with Lower Trias to a place in the much higher Keuper series.

Gümbel, in 1873, wrote a paper *Das Mendel und Schlern Gebiet*, which was published in the reports of the Bavarian Academy of Sciences. Gümbel proved that the Mendola dolomite in its development at the Mendel corresponds, as Richthofen had stated, to the Muschelkalk dolomite with *Gyroporella pauciforata* in the typical section of the Pufis ravine, but that the higher horizons of the Mendola dolomite at the Mendel correspond with Schlern dolomite. Gümbel contended, therefore, that the name of "Mendola dolomite" was unnecessary. The Buchenstein strata are absent at the Mendel, but at the Schlern and Seis Alpe area they are present and are succeeded by shales (pietra verde) containing *Halobia* and *Posidonomya Wengensis*; above these shales, Gümbel distinguished in ascending order the St. Cassian strata, the Schlern dolomite, the red Raibl marls and thin-bedded series of the Schlern plateau. Gümbel erroneously compared the "Buchenstein" horizons in South Tyrol with the "Partnach" horizons in North Tyrol, and consigned both to the period of Upper Muschelkalk. In Gümbel's work the Lettenkohlen or Lower Keuper group was said to be represented in South Tyrol by the St. Cassian series, or its dolomitic facies.

Gümbel strongly insisted that the Schlern dolomite was a stratified marine deposit, originally calcareous, and rich in *Gyroporella*; that it had extended over a considerable part of South Tyrol, and was not a coral-reef structure. Gümbel identified the Raibl strata of South Tyrol with the Upper Cardita strata in South Tyrol, and agreed with Sandberger that they were the Alpine facies of the lower horizons in the extra-Alpine "gypsum Keuper." He still, however, adhered to the independent existence of Lower Cardita strata in North Tyrol as a fossiliferous zone below Wetterstein Limestone in that area.

In 1874, Von Richthofen published in the *Zeitschrift* of the German Geological Society a reply to Gümbel's various points of attack on his work in South Tyrol. Richthofen admitted that he had overlooked the identity of the upper part of the Mendola dolomite with Schlern dolomite, but nevertheless held that, as the two horizons of dolomite were palæontologi-