

Alpine limestone; above it, dolomite and *Cardita strata*; then *Upper* Alpine limestone (Wetterstein), succeeded by *Gervillia strata* and *Lithodendron limestone*. Three years later Pichler accepted Richthofen's divisions of Trias, and referred the Wetterstein limestone to its right position below the *Cardita* or *Raibl strata*, but advocated the view that the Wetterstein limestone and the *Cardita* oolites and marls were in interbedded stratigraphical relations with one another. In 1866 and 1867 Pichler gave a series of geological sections in which he made it appear that between the Wetterstein Dolomite and the *Virgloria limestone* there was a thick and diversified complex of arenaceous and argillaceous strata, dolomite beds and nodular limestone, which contained a fauna like that of the *Cardita strata*, and probably corresponded in North Tyrol to the St. Cassian fauna in South Tyrol. Pichler thus originated the idea that an "Upper *Cardita*" or "Raibl" series and a "Lower *Cardita*" or "St. Cassian" series could be distinguished normally above and at the base of Wetterstein limestone, but sometimes interstratified with it as equivalent facies.

About the same time, in 1866, another point was gained in the comparison between Alpine and extra-Alpine areas. Examples of two typical "Raibl" fossils—*Myophoria Kefersteini* and *Corbula Rosthorni*—were discovered by Sandberger in the lead-glance or galena bed of the Franconian "gypsum Keuper." It was thus ascertained that the *Alpine Raibl strata were contemporaneous with the gypsum and marls which immediately succeed the upper limit of the "Lettenkohlen" or Lower Keuper group in the extra-Alpine areas.* Careful observations had been made by Fötterle (1856) on the palæontological sequence of the Raibl strata in their typical development at Raibl; those were corroborated in 1867 by Suess, who differentiated the Raibl strata into three palæontological zones: the *Lower*, composed of black shales with numerous plant and fish remains; the *Middle*, composed of limestone beds with *Myophoria Kefersteini*; and the *Upper*, composed of marly limestone with *Myophoria Whateleyi*, *Ostrea montis caprilis*, *Pecten filosus* and *Megalodon* casts. Suess applied the name of *Torer strata* to the upper horizon. Two years later Stur expressed his view that the lower horizon was the equivalent of the Wengen strata.

In the summers of 1863 and 1864, special survey work in the north-eastern Alps was carried out by the Survey Department under the direction of Lipold and Stur, and was the