

rock, actually lie within it. He has grouped a section of the Hallstadt series as a separate stage under the name of "Juvavian." It consists at the base of red and variegated lenticular seams of limestone with *Sagenites Giebeli*. Then follow red lenticular limestones with gasteropods (zone of *Cladiscites ruber*). It is here that the Zlambach beds come in with their *Choristoceras Haueri*. They are succeeded by gray limestone with *Pinacoceras Metternichi*, and this by seams of limestone carrying *Cyrtopleurites bicrenatus*.²⁸ This whole series, comprising several palæontological zones, is regarded by Mojsisovics as the equivalent in time of the Main Dolomite.

5. Rhætic Stage.—Two distinct facies of this stage are developed in the eastern Alps, but the unity of the deposits over the whole region is shown by the presence of the characteristic *Avicula contorta*. The Kossen beds are a marly, highly fossiliferous group of strata, marking probably the shallower water, while the upper Dachstein limestone into which they merge may indicate the opener sea. Süss has distinguished a series of "facies" in this group, the lowest (Swabian) marked by the preponderance of lamellibranchs, the next (Carpathian) by the abundance of *Terebratula gregaria* and *Plicatula intusstriata*; the Hauptlithodendron-limestone—a thick mass of coral limestone; the Kossen facies includes the dark brachiopod limestones with shaly partings, while the Salzburg facies is recognized by the prominence of its cephalopods (*Choristoceras Marshi*, *Ægoceras planorboides*).

The Kossen beds are most fully developed in the northern Alps, more particularly in Bavarian and North Tyrol, thinning out toward Salzkammergut, while the dolomitic facies of Dachstein limestone predominates in the southern Alps, the fossiliferous marly facies only appearing in the Lombardy Alps. The occurrence of the fossiliferous Rhætic beds in the Alps gave not only the first clew to the identity in time of the Triassic beds in Alpine and extra-Alpine regions, but it has proved of the greatest importance in tracing the zonal parallelism of the Triassic succession within the Alps themselves. As has been said, a great thickness of wholly unfossiliferous dolomitic and gypsiferous rock sometimes occurs in the western Alps, and it would be impossible to assign a Triassic age to any part of this series were it not for the presence of well-known

²⁸ Mojsisovics, Sitzb. Akad. Wien, 1892, p. 769.