

The research of the western Tauern window between 1894 and 1898 in the documents of the mineralogist and petrographer Friedrich Becke. A project of the „Österreichische Akademie der Wissenschaften“

Hamilton, Margret (Universität Wien, Wien, AUT)

Friedrich Becke's notebooks are witnesses of his remarkable and multifaceted scientific oeuvre. Geoscience owes the following discoveries to Friedrich Becke: the theoretical knowledge about crystal classes, the further development of the research regarding feldspars, the technical development of microscopes, and the geological investigation of the Waldviertel, the Sudeten and the Alps. His most significant discovery was the "Becke Line". The notebooks provide evidence for the mineralogical, petrological and geological techniques used during the late 19th century.

Becke's notices about his fieldtrips in the Alps are generated in between twenty years, between 1892 and 1912 and are documented in different styles as notebooks, field books and laboratory books. Between 1893 and 1903 he filled 18 field books and three notebooks containing his research in the Eastern Alps. Together with the geographer Ferdinand Loewl (1856-1908) he examines the rocks and geological formations of the Southern Alps of Predazzo and the geological structure of the Zillertal Alps.

Between 1894 and 1898 the Commission of the Academy of Sciences approved a petrographic study of the Zentralkette of the Eastern Alps. Three regions were explored by three scientists - Friedrich Martin Berwerth (1850-1918), Johann Ulrich Grubenmann (1850-1924) and Friedrich Becke. Friedrich Becke conducted research in the eastern and western Tauern Window. The documentation describes his visits in the area of the Zillertal and the Tux Hauptkamm with further studies in the Brenner area extending over 10 years between 1893 and 1903. His active participation in the 9th Geological Congress in Vienna can be seen as a research highlight and also as completing the work in the Zillertal and the Tux Alps. The petrographic laboratory studies of the rocks of the Zillertal Alps lead Becke to fundamental discoveries in the field of crystalline schists and metamorphic rocks.

These two areas of research – Zillertal and Tuxer Alpen respectively Hochalm Massiv – have established the Tauern Window in the Alps and given it a firm place in Alpine geology. With his petrographic research and the resulting findings, Becke sets the basis for future discussions of this interesting area.