BMMS: Looking at Bolzano's mathematical manuscripts.

Large parts of Bolzano's mathematical manuscripts are today published in the Bernard Bolzano-Gesamtausgabe (*BBGA)*, the most important of them being several volumes of the *Grössenlehre* (GL) containing *Einleitung in die GL* und *Erste Begriffe,* Reine *Zahlenlehre*, and *Functionslehre.* The manuscripts of *GL* also contain fragments of algebra and of the theory of series, and a beautifully written complete text *Raumwissenschaft.* A small volume *Zahlentheorie* appeared as Bolzano's Schriften, vol. 2, Prague 1931, which is in fact a part of the future volume 2A9 of *the BBGA*, *Verhältniss der Theilbarkeit unter den Zahlen.* Many of the manuscripts are preliminary sketches or auxiliary notes of later published works.

Bolzano's earlier manuscripts (1810-1817) are on the one hand a continuation of the *Beyträge* where appears the concept of the possibility of thinking together (*Zusammendenkbarkeit)*, yielding the concept of whole or system, on the other hand similar contributions to the foundation of mathematics with the concepts of collection (*Inbegriff*), of number, of quantity (*Grösse*), of imaginary (=complex) number and of infinity, and those of analysis and of geometry (several developments about the theory of parallels). Bolzano returns to these subjects very often in his mathematical diaries, which are an exceptional source for the study of the state of mathematical knowledge in the first half of the 19th century.

Eventually, Bolzano's manuscripts contain important extracts, comments and annotations of the books he studied, e.g. those of Carnot (*Géométrie de la position*), Wallis, Wolff, Kästner, Legendre, Lagrange (64 pages of the summary of the *Théorie des fonctions analytiques*), Laplace, and Gauss among others.