Summary

The submitted thesis addresses the ideas that are at the intersections of philosophy and mathematics. These intersections have been in the course of the history as follows: Numerical ratios, the concept of infinity, continuum partition, space specification, determinism versus randomness and exploring of the mathematics foundations with an overlap into philosophy.

The results herewith presented have been achieved on the basis of the HTF lectures and seminars, available literature, my own knowledge and reasoning.

The thesis documents processes of how mathematics stimulated certain philosophical principles and vice versa how mathematics was influenced by philosophical views. Last but not least, there are presented comparisons between philosophic propositions and the current mathematics and physics knowledge in the mentioned intersections.