

## Short circuits or fruitful mutual irritations?

### Encounters of Mathematics and Theology in Nicholas of Cusa and Georg Cantor

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Nicholas of Cusa (1401-1464) and Georg Cantor (1845-1918) are presented as two thinkers who productively combined mathematics and theology. In the talk I am only marginally interested in discussing a possible influence of the older on the younger, but rather in comparing and distinguishing the intentions and argumentation structures of the two thinkers. Indeed, at first glance, there are striking parallels between Cusanus, theologian, philosopher, and church reformer, but also mathematician on the cusp of modernity, and Cantor, one of the central figures of mathematics on the cusp of *mathematical* modernity - despite the great temporal distance.

In particular, the concept of infinity is in the center of interest for both thinkers. This is not surprising in so far as it is of central importance for the for the occidental metaphysics, and thus inevitably also for theology. And also mathematics has been working since Greek antiquity clarify and to master various phenomena of infinity. For Cusanus, 'infinity' is central to articulating his concept of God, at least in his early writings - later it loses its centrality a little bit. Moreover, his mathematical interest focuses on the problem of squaring the circle (and on that of incommensurability in the context of astronomy), so it is also strongly related to (mathematical) infinity. And Cantor, on the other side, is famous for his transfinite set theory which opens the door to a new field of mathematics and a conceptual frame for mathematics as a whole („Cantor's paradise“ in D. Hilbert's words). But also Cantor tried to reflect his revolutionary concepts from a philosophical, i.e., metaphysical perspective.

Furthermore, reflexions on (the appearance) of contradictions play an essential role for both thinkers as the transition point between mathematical and theological discourse. For Cusanus, with the figure of a '*coincidentia oppositorum*,' transcending the Aristotelian principle of excluded contradiction is one of the basic premises of his theology. Cantor, on the other hand, sees in the antinomies of set theory a sign of the limit of human cognition and a possibility of transition into a religious discourse. Here he confesses an "absolutely infinite" beyond any recognizability.

Despite these important similarities, however, on closer examination also essential differences concerning the structure and quality of argumentation become apparent. On the basis of a structural comparison of these two authors we try to develop some criteria for a fruitful interrelation of theology and mathematics.