The conceptual hierarchy in Bolzano's conception of *grounding*

Abstract

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Bernard Bolzano (1781 – 1848) is well-known for, among other things, having been the first offering a thorough discussion of objective explanation. His relation of *Abfolge*, nowadays better known as *grounding*, provides a relation between truths (or true propositions) and their objective reason or *ground*: a truth or collection of truths that in some objective sense explains that truth. Grounding, as Bolzano saw it, can be said to impose a *hierarchy* on truths: grounds are in some sense more fundemental than, and thus prior to, the truths that they ground, i.e. their *consequences*.

For Bolzano himself, as well as in the interpretative literature, it remains an open question under which conditions a (collection of) truth(s) can be said to be the ground of another. In the literature reconstructions of Bolzano's notion of grounding are given, for example as deductive arguments which satisfy certain conditions regarding *simplicity* and *economy* (Roski & Rumberg 2016). However, such reconstructions are lacking, first, in that they do not *explain* the presumed conditions such as simplicity, and second, in that they are not in accordance with several of Bolzano's assertions about grounding, such as that a ground be *at least as general* as its consequence.

In this talk we claim that in order to arrive at a correct interpretation of Bolzano's views on grounding, one has to take into account that in Bolzano's view there is an hierarchical ordering not only among the *truths*, but also among the *concepts* which make up a science. Such an hierarchy of concepts is a substantial part of the tradition of thinking about science, originating from Aristotle's *Analytica Posteriora*, which heavily influenced Bolzano and in particular his ideal of science (de Jong & Betti 2008, de Jong 2001). According to this traditional conception, a science consists of some fundamental concepts, and all other concepts are defined from them according to the well-known model of definitions *per genus proximum et differentiam specificam*. Concepts, accordingly, are on this conception hierarchically ordered as *genus* and *species*. We will argue that the hierarchical ordering that grounding imposes on *truths* in Bolzano's view emanates from the hierarchical ordering of the *concepts* which make up those truths.

We will show that taking into account this traditional conception of concepts, one can account for Bolzano's requirements that grounds be simpler and at least as general as their consequences in a satisfactory manner. Moreover, other assertions of Bolzano which on other interpretations cannot be accounted for in a satisfactory manner can be explained

on our conception, for example why in Bolzano's view sciences consist of *synthetic* truths only. As a side-note, it will become clear that Bolzano is less anti-Kantian than is often presumed (Lapointe 2007, Lapointe 2011). We will show that with regards to the role attributed to the conceptual hierarchy in science, Bolzano's conception is very much in line with the tradition and in particular with Kant.

References

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