REMARKS ON BOLZANO’S COLLECTIONS

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With his “zoology of general kinds of collective entities”, Peter Simons has sketched – in a very helpful way – some main alternatives for possible interpretations of Bolzano’s collections. As he pointed out, we may not have more than just a best fit – and, in fact, he proposes that Bolzano’s account is “a distinct and distinctive theory of collections”. I do agree with Simons that there are many difficulties we have to face when we try to fit Bolzano’s account into one of our theories. Also, ignoring the considerable historical interest for the moment, the price the technical inconveniences as well as the conceptual complexities which such a fit might require in the end could be too high to be of any practical interest. Nevertheless, I would like to try my luck for a best fit.¹

If we assume that Bolzano thinks of all collections as individuals, and I believe he does, then Simons’s scheme suggests that they should be taken as sets or as wholes.² I wholeheartedly agree with Si-

¹ Simons is clearly right that Bolzano does not develop a systematic theory of collections. However, collections play a fundamental role for Bolzano (even beyond his mathematical theories), since anything whatsoever is either a collection or an “atom” (einfach). So it is no surprise that the notion of a collection is almost ubiquitous in Bolzano’s works.

² This assumes a “liberal” reading of “individual”: one of Bolzano’s examples is the collection of the proposition given by Pythagoras’ Theorem and the men Pythagoras and Henry Bodd (cf. EG, § 6, 75v). The example is deliberately chosen by Bolzano to emphasize “auch zwischen so ungleichartigen Dingen, wie eine Wahrheit an sich, welche nichts Existirendes ist, und zwischen zwei Menschen, deren der Eine ein paar Jahrtausende später als der Andere gelebt, bestehet ein Zusammen in der hier angegebenen Bedeutung; sie bilden ein Ganzes” (ibid.). In WL I, § 82 (2), 394, Bolzano considers the parts of the idea of a “list-collection” of things given by the ideas A, B, C, D, ... and writes: “wenn wir uns gewisse Ge-
mons that Bolzano’s collections cannot be identified with sets – and Simons offers several good reasons for this. Just the fact that Bolzano accepts no categorial difference between concrete objects and their collections should warn us, since all sets are abstract.

On the other hand, there seems to be a salient obstacle for collections as wholes: Bolzano does not hold that all collections should have a transitive part-relation – whereas Frege (1906, 198f.), e.g., reminds us that the transitivity of the part-whole relation is a characteristic feature of wholes and a formal difference between the part-relation and the membership-relation for sets, which is not transitive. Are we back to the “collections as sets view”?

Not necessarily. There is more leeway for interpretation: the argument involves two ingredients – wholes and the part-relation. We can, therefore, blame Bolzano’s flexible use of “Teil” for the observed deviancy and stay with the “collections as aggregates view”. Consider one of Bolzano’s examples (cf. EG, § 9, 77v): the king can be counted as a part of a state, though certainly not the king’s head. But clearly, the plausibility of this example hinges on an ambiguity of “part” – the head is a part of the king in a different sense than the king is a part of the state. With Frege we can stick to the transitivity of the part-relation for collections (as aggregates) – if we use the word “part” unambiguously.

So, my proposal is that collections are indeed mereological wholes, and that the different “meanings” of “part” in different contexts need to be made explicit via “specialized” or suitably relativized part-relations, such as being a “person-part”, or being a “bodypart-part”. A specialized part-relation like “person-part” has the job, so to speak, to keep out arbitrary parts which are not persons. In general, given an idea v, a v-part of x is anything that is both

110

genstände A, B, C, D, ... den einen nur nach dem andern, oder auch alle zugleich, sonst aber nichts Anderes vorstellen: so ist es noch gar nicht ihr Inbegriff, den wir uns vorstellen.” This can be read as the ideas A, B, C, D, ... alone correspond to a plurality of their objects, and only after “adding” the idea of compositeness do we get an idea of an individual, viz., a collection.

3. By admitting explicitly relativized part-relations we are, so to speak, putting back a definite (not necessarily exhaustive) scheme of subdivision of a whole, which would have been given by the abstract set of certain parts of the whole – without increasing the “type level” of our objects.