Edgar Morscher
Bernard Bolzano's Life and Work.
Sankt Augustin: Academia 2011.
214 pages
€22.00 (paper ISBN 978–3–89665–453–3)

In the course of the last few decades, analytical philosophers have become increasingly aware of Bernard Bolzano's importance. More than 40 years after the publication of the first volume of the *Bernard Bolzano Gesamtausgabe* (Stuttgart, Frohmann Holzboog, 1969–), a considerable number of articles and books dedicated to various aspects of Bolzano's philosophy have appeared in various languages and it has finally become standard to include Bolzano in accounts of the commencements of analytical philosophy along with Frege, Russell, Brentano, Husserl, and Wittgenstein. Nonetheless, there's a gap of more than a century between the publication of Hugo Bergmann's *Das philosophische Werk Bernard Bolzanos* (Halle, 1909) and that of Morscher's excellent little survey of Bolzano's philosophy. The timeliness of a presentation of Bolzano's life and work in light of the most recent developments of the discipline is indisputable and Morscher's effort correspondingly praiseworthy. The book itself adds only little to Morscher's long article in the *Stanford Encyclopedia of Philosophy*, but it does not pretend to do so. At any rate, it is unlikely to constitute Morscher's last word and Morscher's preface lets us hope that his project of a monograph on Bolzano's philosophy will soon concretize.

Bolzano's life is admirable, his work monumental, and his philosophical accomplishment one of the most substantial of the nineteenth century. Morscher's book succeeds in brushing a picture of Bolzano that adequately gauges the breadth of Bolzano's philosophical insights. The book is divided into 14 chapters. The first two are biographical. The third one offers a survey of Bolzano's writings. The final chapter discusses Bolzano's influence. The ten remaining chapters are each devoted to one aspect of his philosophy: logic, epistemology and philosophy of science, ethics, aesthetics, political and social philosophy, philosophy of religion and theology, metaphysics, philosophy of nature and physics, philosophy of mathematics, and metaphilosophy and history of philosophy. While Bolzano is mainly known for his work in logic, mathematics, and their philosophy, he made contributions—not all of them of equal value—to all these subdisciplines, and Morscher manages to discuss in more detail the issues that are effectively most likely to interest the contemporary reader without however neglecting Bolzano's less fashionable theories. He provides a straightforward picture of the Bolzanian program and, in particular, of Bolzano's views on the fundamental place of logic for both theoretical and practical philosophy. As such, *Bolzano's Life and Work* will allow the first time reader to orient herself in the primary literature and, to a certain extent, to get acquainted with the main secondary resources as well.

Morscher's take on Bolzano, and in particular on Bolzano's views on logic, is both dependably orthodox and thoroughly informed. Morscher's sustained attention to

Bolzano's logic is also not arbitrary. Bolzano thought that progress in ethics, philosophy of religion and mathematics—Bolzano's main concerns—would thrive on a reform of logic and Bolzano brought this reform to bear in the *Theory of Science* (1837). Roughly a third of Morscher's book is devoted to the theories Bolzano introduced in his *opus magnum* and Morscher's presentation thereof is focused, systematic and clear. In particular, Morscher's discussion of the substitutional procedure—the method of idea-variation on the basis of which Bolzano defines notions such as analyticity, consequence and probability—is elegant and transparent. The few points that have caught my attention and about which I may have had reservations are rather peripheral. For instance, Morscher's idea that Bolzano's substitutional method includes an "equicategoriality" constraint—the idea that ideas can only be substituted for ideas of the same category—is a thesis which, though insightful, is not supported by textual evidence.

Many authors, including Morscher, assume that the expressive power of contemporary logic owes to Frege's analysis of propositional structure in terms of function, a feature Bolzano's logic lacks. Unfortunately, the consequence of this assumption is that Bolzano's views on syntax have invariably been misunderstood and undervalued. In the *Theory of Science*, Bolzano presents an alternative way to regiment the grammar of natural language. Bolzano's project was to eliminate the traditional logical vocabulary (including: 'or', 'not', 'and', 'if... then...', 'all', and 'some') in order to accommodate the idea that all propositions ultimately have the form 'A has b'. Bolzano's syntax is accordingly substantially different from both traditional Aristotelian logic and standard first-order predicate calculus. But it does not follow that the resources Bolzano had at his disposal were accordingly unfit to account for the richness of natural language. Arguably, they were at least as fit as are the resources of first-order predicate calculus.

Take universal quantification. That Bolzano's theory is fully equipped to deal with universally quantified sentences has been by and large overlooked, and Morscher is no exception. Nonetheless, Bolzano's definition of the notion of "universal validity" (*Allgemeingütigkeit*) offers philosophically interesting and workable means to deal with the problem of generality. In order to be universally valid, a proposition must fulfill two conditions: (i) it must contain at least one variable component; (ii) all its referential (Bolzano says "objectual") variants must be equiveridical—variants whose subject-idea is referential must be all true. Two points need to be emphasized. First, propositions, if they are universally valid, are universally valid *with respect to determinate components*. The predicate that applies to a proposition is not therefore universally valid but 'is universally valid with respect to "...",' where '...' is filled by an expression that designates a variable component in the relevant proposition. In this respect, the property (for the collection of all objectual variants of a proposition) of being equiveridical is indistinguishable from the property (for a propositional form) of having only true substitutional instances. To say that:

'Caius, who is a man, is mortal'

is universally valid with respect to 'Caius' and to say that all interpretations of:

'x who is a man is mortal'

are true amounts to the same. But if this is the case, 'is universally valid with respect to "..."' is, like the universal quantifier of first-order predicate logic, an operator that binds a variable to express generality. Second, despite the fact that Bolzano's definition of universal validity offers a fairly clear description of substitutional quantification, he is not faced with the usual objection to the latter. Bolzano deals not primarily with sentences and words but with their meaning, that is, ideas and propositions. Though Bolzano's approach to quantification is substitutional, he is not liable to the reproach according to which his interpretation of the universal quantifier cannot account for every state of the world: since there is in principle a name for every idea—and since there is (at least) one idea for every object—there is a "name" for every object. Hence, the resources Bolzano assumes are at his disposal are in principle as rich as necessary to provide a complete description of the domain the theory is about.

Bolzano's syntax is rich and sophisticated, if somewhat awkward. Assuredly, Morscher explicitly acknowledges that Bolzano has ways to deal with conjunction, disjunction, conditionality, negation, existential quantification and relational predicates that are consistent with the idea that all propositions have the form 'A has b'. What I've just argued is that Bolzano also offers a systematic treatment of generality. What's more, if Bolzano's views are expanded to include minimal notational devices, his theory delivers a language whose expressive power is at least as significant as that of first order predicate logic, including relational statements involving multiple quantifiers. (I argue for this in *Bolzano's Theoretical Philosophy*.) This point is neither philosophically uninteresting nor historically trivial. Resorting to a range of meta-linguistic devices, Bolzano was first to introduce the means to express in a logically ideal language an equivalent for virtually every first order sentence. In this respect, he contradicts any assumption that a functional analysis of proposition is required to do so.

Sandra Lapointe
Kansas State University