

# HUSSERL READER OF BOLZANO

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Can we imagine the impact of the *Logical Investigations* on its first readers<sup>1</sup>? Although Husserl's complex syntax continues the style of the German idealism, he deliberately turns his back on the prevailing philosophical trends of his own time. Husserl not only moves away from idealism, be it Kantian, post-Kantian or neo-Kantian; he at the same time takes leave of the vast current of psychologism from which he stemmed. The problems of logic cannot be solved by the exploration of the origin of the concepts in our souls, but only by giving prominence to the structure of concepts, which does not depend on their particular subjective occurrences. According to Husserl, this goal can be obtained by a new kind of intuition, which is directed towards essences, *Wesensschau*. Terminological and conceptual innovations of the *Logical Investigations*, such as "sense-giving act-character", "fulfillment of acts by intuition", "meaning-intentions", "meaning-conferring acts" or "forming categorial acts" compounded the bewilderment of its readers.

There is something inchoate and elusive about Husserl's work. The style of the *Logical Investigations* is that of an ongoing search where long avenues are

1. This paper has its origin in my unpublished research report for the C.N.R.S., Paris (1966) which, in its turn, grew out of a seminar of S. Bachelard at the Institut d'Histoire des Sciences, Université de Paris (Sorbonne), in the sixties. I am greatly indebted to Claire Hill and to Paul Rusnock for their help in the revision of my text.

marked out, but where the author sometimes hesitates about the direction to take. His way of expressing himself is often clumsy, the sentences sometimes badly articulated. It is as if he is searching for treasure and cautiously excavating it, bit by bit. Many fundamental concepts are not given definitions, a complaint already raised by Husserl's contemporary Wilhelm Wundt. Few examples afford us hints for understanding where Husserl is leading us.

Nevertheless, unlike others, the readers of Bolzano's *Wissenschaftslehre* found themselves at ease with Husserl's *Logical Investigations*. The logical terminology, examples, concepts, even some assertions and arguments, were familiar to them. This was already the case with the doctrine of anti-psychologism which forms so to speak the skeleton of the *Logical Investigations*. Although apparently diverted from anti-psychologism by Frege's review of *Philosophie der Arithmetik*, Husserl always stressed the decisive stimulation received from the *Wissenschaftslehre*, which initiated the new turn and yielded further arguments in favor of anti-psychologism.

Another series of fundamental innovations appears in the *Logical Investigations*, for Husserl introduced there a host of new or rarely used logical terms and concepts: logic is now called theory of science, and must henceforth be concerned with the foundations (*Begründung*) of science and the connection of truths (*Zusammenhang von Wahrheiten*) by means of the relation of ground and consequence (*Grund und Folge*); judgments are founded in propositions in themselves; objectuality (denotation, *Gegenständlichkeit*) becomes an important property of ideas; the concept of something in general (*Etwas überhaupt*) becomes the supreme concept of formal ontology; ideas (presentations, *Vorstellungen*) are for Husserl ideas in themselves; the verb to multiply (*vervielfachen*) refers to the multiplicity of individual acts that grasp the same meaning; propositions and ideas in themselves are called ideal meanings. A number of smaller innovations accompany these fundamental logical ideas, e. g. Husserl's theory of the sign or when he distinguishes between equality and identity or considers color as a pure general concept.

It could not have escaped the notice of a careful and experienced reader of the *Logical Investigations* that this second series of innovations had come from Bolzano. Several references to the WL and remarks of the kind: "Here, we follow Bolzano" bear witness to this. Husserl had carefully annotated all four volumes of the WL and, due to the article of O. Stolz on Bolzano's contributions to the infinitesimal calculus<sup>1</sup>, knew his two most important published mathematical works well: *the Rein analytischer Beweis* and the *Paradoxes of the Infinite*.

1. *Mathematische Annalen*, 18 (1881), 255-79; 'Corrections', *ibid.* 22 (1882), 518-19.

Husserl himself recognized his debt to Bolzano in the famous appendix of § 60 of the *Logical Investigations*. This, too, must have come as a surprise to Husserl's readers. Except for the close circle of Brentano's disciples and one or two German philosophers who swam against the current, who had ever opened his *Wissenschaftslehre*? Who had ever heard about the priest Bolzano, dismissed from the University of Prague in 1819 for obscure political and religious reasons? Who was concerned about a forgotten amateur mathematician who had spent his leisure hours penning voluminous and fusty books about logic and religion? Bolzano presented his logic under the label of "theory of science", which had nothing in common with Fichte and which reminded contemporary readers more of scholastic treatises on logic than of the research of his time. Writing in a period so rich in logical developments, why would Husserl be looking for inspiration in the works of a man who had died more than a half century earlier?

Mathematicians were first to notice the importance of Bolzano's contributions. Already Abel remarked in a notebook that "Bolzano was a clever man". Cauchy and Bolzano met in Prague in 1833 or 1834. In his lectures of 1869, Weierstrass mentioned Bolzano's important paper *Rein analytischer Beweis...* containing, among other results, the proof of the Intermediate Value Theorem. In 1871, Hankel recalled his treatment of infinite series and a year later H. A. Schwarz used his definition of continuity. Cantor, colleague and friend of Husserl in Halle, appreciated Bolzano's *Paradoxes of the Infinite*. He discussed "the beautiful work, rich in content" in his important articles on linear point-manifolds in 1883. He also sent Bolzano's book to Dedekind who borrowed and adapted from it the proof of the existence of infinite sets. At the same time, the Weierstrass school quarreled with Kronecker, who raised objections against Bolzanian infinitary methods of inference. In several passages, Ch. S. Peirce, too, referred to Bolzano's theory of infinite sets.

Husserl, contrary to his claims, was not the first philosopher (except Brentano in his lectures<sup>1</sup>) to call attention to Bolzano. In a series of articles on intuition and its conceptual elaboration, published between 1885 and 1891, Benno Kerry, also a student of Brentano, analyzed the philosophy of logic and mathematics of three authors: Kant, Bolzano and Frege. In 1894, a young Polish philosopher named Kazimir Twardowski, in his important book on the *Content an Object of Presentations*, had devoted more remarks to Bolzano than to any other philosopher, including his teacher Brentano. Although not sparing in his criticism, Twardowski made extensive use of Bolzano's ideas, which had won wide recognition among the most important members of the Brentano school. After the publication of Twardowski's book, Husserl himself

1. In 1884/5 Husserl attended Brentano's lectures on the descriptive psychology of the continuum, where Bolzano's *Paradoxes of the Infinite* was discussed. Brentano also spoke of ideas, intuitive and non-intuitive, clear and obscure, distinct and indistinct, etc.

Husserl's Logical Investigations Reconsidered

Fisette, D. (Ed.)

2003, VI, 240 p., Hardcover

ISBN: 978-1-4020-1389-8