

**Review of: F. Brentano & G.T. Fechner (2015), *Briefwechsel über Psychophysik 1874-1878* (M. Antonelli, Ed.), *Grazer philosophische Studien*, 4 (2017).**

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This volume presents an (almost) complete edition of the hitherto unpublished correspondence of Fechner and Brentano, along with a substantial introduction by the Editor. The correspondence includes eleven letters exchanged between the two philosophers from May to July 1874 and from October 1877 to January 1878. It seems that only one letter is missing, namely the letter that accompanied the copy of *Psychology from an Empirical Standpoint* that Brentano sent to Fechner in early 1874 (89, fn.). Thus far, all that was available were some comments in the two philosophers' writings and an account of the earlier letters that is found in a letter from Brentano to Stumpf dated July 1874 and published by Gerhard Oberkofler (*Briefe an Carl Stumpf 1867-1917*, Akademische Druck- und Verlagsanstalt, 1989). The letters are very carefully edited with a rich and reliable critical apparatus, and supplemented by nine facsimile reproductions. The book also includes an index nominum and an extensive bibliography.

In the Introduction, comprising more than half of the book, Mauro Antonelli brilliantly places the correspondence within the wider context of the history of empirical psychology and the heated controversies that surrounded Fechner's logarithmic law. In the first two sections, he extensively outlines the rise of the "new psychology" in the nineteenth century, which he sees as an attempt to establish psychology as a rigorous science in response to Kant's dismissal of both empirical and rational psychology. In the Editor's view, the Brentano-Fechner controversy is an encounter between two distinct traditions within this "new psychology" — an encounter which "has played a central role in the later development of scientific psychology" (4). On the one hand, Fechner initiated a statistical psychology that is currently represented by the Bayesian account of perception. On the other hand, Brentano promoted a phenomenological approach which is more akin to Gestalt-theory and recent research on perceptual organization. In the following pages, the Editor provides a very good historical introduction to Fechner's psychophysics, including an excellent account of the logarithmic

law and the concurrent power law favored by Brentano and Joseph Plateau. He also rightly describes Fechner's position as a combination of empirical parallelism and the thesis of the identity of mental and physical at the metaphysical level. (Oddly enough, however, the Editor views Brentano's distinction between mental and physical phenomena as metaphysical or "ontological", and argues that "the concern with metaphysics (...) is one of the closest links between the scientific projects of Brentano and Fechner" (40–41). This claim is plausibly the result of his view that Brentano is also concerned with the physical causes of sensations (48) and does not conceive of these causes as physical phenomena (53–54). Antonelli contrasts "the monist views of the physicist Fechner" with Brentano's "Aristotelian background and dualist views" (53), which he claims involve interactionism (61). It seems to me more plausible, however, to say that both Brentano and Fechner promoted phenomenological dualism, and that the latter, like Lotze, combined phenomenological dualism with substance monism (identity thesis), or more specifically metaphysical panpsychism. The idea of an irreducible psychophysical difference at the phenomenal level is presumably a common assumption that underlies both Fechner's parallelism and Brentano's theory of intentionality.)

The remainder of the Introduction is devoted to a thorough investigation of the similarities and differences between the two approaches in the light of the correspondence as well as other writings. In Section 5, "Brentano vs. Fechner", Antonelli explains Brentano's definition of psychology as an empirical science, that is, not as a science of the soul as it had been traditionally conceived, but as a "science of mental phenomena" that is based on inner perception and self-observation. He then examines what he takes to be Brentano's two principal objections to the logarithmic law. First, Brentano objects that the measurement units used — the just noticeable increments of sensation intensity — are not equal, but "equally noticeable", and hence enunciates the following equivalence:  $\Delta u/u = \Delta v/v$ , where  $u$  and  $v$  denote intensities. Second, he criticizes the scope of the logarithmic law as too narrow: it applies neither to physical phenomena (colors, sounds, etc.) nor to sensations caused by inner stimuli, and it takes into account only sensory stimuli without consideration of other factors affecting mental intensity, for example attention. The Editor rightly stresses the huge difference between how Brentano and Fechner conceive of the place and role of mathematics in science and the possible applications of mathematics to mental processes. Although Brentano, as Antonelli notices (56), approves the use of statistical methods in psychology, he agrees with Comte that the laws governing mental processes are not exact laws, but just inductive regularities. Section 6, "The Correspondence", is dedicated to discussing Fechner's

responses as well as some attractive aspects of Brentano's corresponding views. Antonelli convincingly shows that a fundamental difference between the two authors lies in the fact that they understand differently what a threshold of noticeability actually is (59). He also suggests, with great perceptiveness, that Brentano's objections in some ways anticipate the rejection of the constancy hypothesis by the Berlin Gestalt-psychologists (60, 62). Roughly: Brentano's view that sensation intensity cannot be measured independently of attention suggests that attention is not superadded to sensation, that is, that sensation does not remain invariant throughout attentional variations. Section 7, "Brentano's Later Views", deals with Brentano's later attempt to reduce intensive to extensive magnitudes, namely to sets of filled or empty points within a phenomenal field. In his later writings, Brentano claims not only that mental intensity as such is not a magnitude, but also that it is not a primitive feature of experience and can be entirely accounted for in terms of spatial properties. The Editor then emphasizes the central role Brentano assigns to the *Bemerken* in psychological analysis. In the concluding remarks, he interestingly suggests that, on Brentano's view, experience exhibits not one, but two distinct types of threshold. This view was explicitly endorsed by Brentano's pupil Carl Stumpf. It is, the Editor argues, a clear anticipation of the signal detection theory of experience.

The Introduction as a whole is a very fine piece of historical scholarship, which makes a useful contribution to furthering our understanding not only of the Brentano-Fechner controversy and the issues raised in it, but also of the history of nineteenth-century psychology in general. Antonelli's overview is all the more valuable because the controversy as well as its polemical context are very poorly documented — if not totally unexplored — in current literature. Additionally, it sheds new light on some questions that may be more central to Brentano's philosophy than many others being far more widely discussed in Brentano scholarship. It is worth noticing that Brentano's theory of intentionality, like Fechner's psychophysics, can also be read as a contribution to the issue of the relationship between mental and physical phenomena: physical phenomena are intentional contents of mental phenomena.

This correspondence provides a wealth of information about many aspects of the Fechner-Brentano controversy. In Letter 2, for example, Brentano declares that Fechner's mathematical reconstruction of his correction to the logarithmic law "fully squares with his conviction" (90). This is of significance, because until now we only had Fechner's claim that

Brentano had approved the formula in their correspondence (*In Sachen der Psychophysik*, 1877: 24). We now have confirmation that Brentano really did so.

A major benefit of this correspondence is that it provides the reader with a clearer and deeper understanding of Brentano's most central objection against Fechner in the 1874 *Psychology*. This objection is that the logarithmic law does not measure what it is intended to measure, namely the intensity of sensation. In a nutshell: measuring sensory intensity requires that increments of sensation can be set as equal. In Fechner's view, this is possible because there is a functional relation between sensation increments and (directly measurable) stimulus increments. In other words: determining equal increments of the stimulus makes it possible to determine equal increments of sensation, that is, to measure mental intensity. Brentano challenges this view, arguing that Fechner fatally conflates two different things, namely sensation increments' being equal and their being "equally noticeable" (*gleichmerklich*). However, his motivations for this claim were quite obscure in the *Psychology* and Fechner himself expectedly found the distinction unintelligible. One of the most valuable aspects of the correspondence is that it contains an extensive discussion of the *gleich-gleichmerklich* distinction: Fechner complains that he does not understand what the distinction is and Brentano strives to explain at length what he has in mind. Most interestingly, the correspondence presents five objections that are absent or very elliptically expressed in the other works. The line of argument is roughly as follows: (a) "Equal" and "equally noticeable" are not identical concepts; there is no conceptual necessity that two equal increments should be equally noticeable or that two equally noticeable increments should be equal. (b) There are empirical counter-examples that show that this is not even an a posteriori truth. Brentano's conclusion is that the magnitude measured by the psychophysical law is not intensity, but noticeability.

Surprisingly, Brentano goes even further and explicitly endorses the view — which had very few advocates at that time, for example Bergson and Sigmund Exner — that intensity is not at all a magnitude: "I have come to the firm conviction that intensity can in no way be called a 'magnitude'" (107). This is unexpected because it has been generally assumed until now that Brentano had endorsed this view at a much later time. The underlying question is whether being a magnitude involves being measurable. Fechner holds that being a magnitude does not involve being directly measurable: intensity is not directly measurable, and it is a magnitude since it is susceptible to more and less. Brentano, by contrast, thinks that being a magnitude

does involve being measurable, that intensity is neither directly nor indirectly measurable, and hence that intensity, even though susceptible to more and less, is not a magnitude. In consequence, the psychophysical law in no way measures sensation intensity. What then does it measure? Noticeability, unlike intensity, is dividable into equal parts, as witnessed by the fact that it has thresholds. Therefore, it is a measurable magnitude: “We can no more divide the intensity of sensation into equal parts. Still, we can divide it in equally noticeable parts, in which case we decompose not the intensity of sensation, but its noticeability” (90).

In conclusion, this book fills a glaring gap in the Brentano literature. It will undoubtedly become a seed source for much future research and hopefully lead to the rediscovery of some core aspects of Brentano’s thought that are widely neglected. It will also allow a better understanding of Brentano’s original contribution to some controversies that are key to the history of psychology and philosophy in the nineteenth-century. These controversies include not only the debate over psychophysics, but also wide-ranging discussions about attention, intensity, and measurement. Brentano’s follower Oskar Kraus was perfectly right when he described these letters, on the cover-page of the Brentano-Nachlass manuscript, as an “extraordinarily important correspondence” (78).