



REVIEW: David Pantalony, *Altered Sensations: Rudolph Koenig's Acoustical Workshop in Nineteenth-Century Paris*

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Source: *Spontaneous Generations: A Journal for the History and Philosophy of Science*, Vol. 4, No. 1 (2010) 289-291.

Published by: The University of Toronto

DOI: [10.4245/sponge.v4i1.14194](https://doi.org/10.4245/sponge.v4i1.14194)

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Published online at jps.library.utoronto.ca/index.php/SpontaneousGenerations
ISSN 1913 0465

Founded in 2006, *Spontaneous Generations* is an online academic journal published by graduate students at the Institute for the History and Philosophy of Science and Technology, University of Toronto. There is no subscription or membership fee. *Spontaneous Generations* provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

REVIEWS

David Pantalony. *Altered Sensations: Rudolph Koenig's Acoustical Workshop in Nineteenth-Century Paris*. xxxvi + 372 pp. Dordrecht, Heidelberg, London, New York: Springer, 2009.*

Sarah-Jane Patterson[†]

In *Altered Sensations: Rudolph Koenig's Acoustical Workshop in Nineteenth-Century Paris*, David Pantalony achieves the difficult goal of balancing technical detail and historical narrative in his account of Rudolph Koenig and the nineteenth-century Parisian scientific instrument trade. The Parisian instrument making trade, particularly that of acoustical instruments, was at a high point in the mid-nineteenth century. Chief among scientific instrument makers was Rudolph Koenig (1832-1901), whose *atelier* at 30 Hautefeuille was at once an artisanal studio, a laboratory, a workshop and a showroom. The negotiations necessary for one building, and one person, to channel such different activities is one of the main themes of Pantalony's book. Pantalony shows that Koenig's *atelier* was central to disputes surrounding the creation of the "modern soundscape" (p. 170). Debates regarding analytic versus holistic conceptions of sound, "objective" visual versus "subjective" by-ear modes of perception and measurement, and experimental versus theoretical results are all prominent in the text, and all framed by the different, but not disparate, functions of Koenig's *atelier*; the building acts as a multi-faceted lens through which Pantalony considers Koenig and his instruments in their artistic, intellectual, commercial and social contexts.

The text is divided in two major sections. The first is a careful historical narrative focused on Rudolph Koenig, instrument maker, businessman, experimenter and artisan. The second section comprises appendices to the book, or rather, an appendix of key dates in Koenig's life and another work unto itself: Pantalony's *Catalogue Raisonné of Koenig Instruments*.

In the first chapter, *Training*, Pantalony focuses on the history of Koenig-the-Man, and the development of Koenig-the-Artisan. Here, the

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reader learns of Koenig's apprenticeship in one of the finest violin workshops in Paris, that of Jean Baptiste Vuillaume, and how Vuillaume's workshop influenced Koenig's own establishment; Pantalony paints Vuillaume's studio as "a bustling place of varied activity—interactions with musicians, scientists, and artisans; precision artisanship, experimentation, invention, teaching, promotion and business" (p. 4). Each of the following chapters of Pantalony's text highlights one of these elements in the context of Koenig's *atelier*. In *Hermann von Helmholtz and the Sensations of Time*, Pantalony focuses on the laboratory aspect of the *atelier*, and the pre-eminence of Helmholtz's theories of sound in the nineteenth century. In *Transformations in the Workshop*, Pantalony looks at the *atelier* as a workshop, with the precision construction of instruments leading to a better understanding of acoustical phenomena and in turn augmenting the established theories of sound. In *The Market and Its Influences*, Pantalony considers Koenig's business as a showroom, a place of demonstration for scientists, educators and other instrument makers to witness and discuss Koenig's apparatuses and their broader impacts on acoustical theory.

In *Constructing a Reputation, 1866–1879*, Pantalony examines Koenig's *atelier* as both a laboratory and a workshop, emphasizing the aspects of Koenig's experimental work that conflicted with Helmholtz's acoustical theories. Pantalony convincingly argues that the techniques developed for the construction of the instruments committed Koenig to a particular view, and that view restricted Koenig from making any comment on the underlying mechanisms of acoustical phenomena such as timbre. In *Expanding the North American Market, 1871–1882*, Pantalony considers the *atelier* as both a laboratory and a showroom. These two facets can be seen in the expansion of Koenig's market into the university classroom. Koenig acted as an unofficial purchasing agent for several universities in North America, including the University of Toronto, where Koenig outfitted James Loudon's new physics laboratory. This and similar relationships resulted in the broad-scale dissemination of Koenig's instruments and processes to North American science students. Finally, in *The Faraday of Sound*, Pantalony regards Koenig's *atelier* as a kind of theatre, a combination of workshop and showroom. This chapter emphasizes the persuasiveness of the demonstrations generated in the *atelier*. This aspect of the demonstrations is mentioned in previous chapters, but here the increasing "rhetorical spirit" (p. 133) of Koenig's apparatuses is examined; Pantalony shows that the instruments were constructed to "impress, overwhelm and convince an audience" (p. 133), and not simply provide data for research purposes. In the late 1880s, these instruments were directed against the acoustical theories of Helmholtz, and the chapter gives an account of several of these debates.

The second half of the text, the appendix and *Catalogue Raisonné of Koenig Instruments*, is meant to be a reference for the preceding work. While the appendix provides a useful timeline of Koenig's life, it is the catalogue that allows the narrative of the first section to avoid being mired in the particulars of instruments, collections, and technical minutiae. It also raises this book from a good historical narrative of Parisian scientific instrument making to an excellent historical and material culture resource. Using Koenig's 1889 catalogue as a template, Pantalony has provided a detailed history of the surviving Koenig instruments that includes (where possible) the instrument's provenance, its function, references in both primary and secondary resources, a physical description, and the location of surviving examples (with purchase dates). Of the 272 instruments in Koenig's 1889 catalogue, less than seventy have no notation by Pantalony in his *Catalogue*, and some of the instruments have multiple notated entries. The notated instruments are found across the world in nearly fifty collections and many of them are accompanied by an illustration from the Koenig catalogue or a photograph of the instrument taken by the author. The amount of research conducted by the author for this *Catalogue* is staggering, and it is an invaluable resource, if specific to historians and curators of Koenig's instruments.

The strength of Pantalony's approach—considering the Parisian scientific instrument making trade in light of the variety of functions of Koenig's *atelier*—is that the reader is never led to a monocular view of the instruments, their maker or their end use. Instruments are constantly present, and there are discussions of particular construction techniques, particular users and particular events, but each particular is situated within an entire network, which Pantalony very successfully describes. Each chapter may stand alone, if taken in conjunction with the first, introductory chapter, but the whole picture is achieved only by a complete reading. This is no great disadvantage, since the text is both accessible and not terribly long. *Altered Sensations* provides an excellent introduction to the complexity and interdisciplinary nature of scientific instruments, their makers and their impact on the development of science itself, appropriate to both students and scholars, while also being an invaluable contribution to the history of nineteenth-century Parisian scientific instrument culture, and Rudolph Koenig himself.

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