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## Dossier Pierre Duhem – Book Review

Duhem, Pierre. *La théorie physique : Son objet, sa structure*. – New edition [Online] / Presentation and editing by Sophie Roux. – Lyon : ENS Éditions, 2016. – 297 p. – (Bibliothèque idéale des sciences sociales). €4,99 e-ISBN: 9782847888348.

### Reviewed by:

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It was in 1981– thus during the same year as his dissertation defense, one year prior to doing the same for *Σύζειν τὰ φαινόμενα* (1982), and six years before his book *Duhem: Science et Providence* (1987) – that Paul Brouzeng (1938-2012) finally furnished Francophone readers, after a wait of more than sixty years, with the first complete reprint (and, incidentally, the first anastatic one) of the second edition of *La théorie physique* (1914). It was enriched by an introduction of eleven pages, a very succinct bibliography and an onomastic index, which must have misled many readers since it, in fact, only covered the text of *La théorie physique* itself and not that of the two articles added by Duhem in his second edition. Considering the fact that this reprint of *La théorie physique* is still and ever available at *Vrin Bookshop* (both in hardcover and paperback formats), it is worth assessing any additional value which may be afforded it by Sophie Roux's new online edition, other than the fact that, as is the case with all electronic publications, it offers readers the considerable advantage of being able to search the entire text, thereby addressing the aforementioned shortcoming with respect to Brouzeng's edition.

This contemporary edition distinguishes itself by furnishing (in decreasing order of importance): 1) a comprehensive introductory essay, which is both concise and synthetic, entitled *Lire « La théorie physique » aujourd'hui* (23 pages); 2) a summary of around 15 lines at the beginning of almost every chapter (Chap. 3 of Part 1 being an odd exception), thus deftly bringing the progression of the Duhemian arguments (p. 1) to the fore; 3) over fifty notes – often biographical, sometimes particularly enlightening (p. 112, n. 2) and erudite (p. 248, n. 85) – added by this editor and serving to comment upon the 230 pages of text (it is, however, regrettable that the notes of both Duhem and the editor were carried over to the end of each chapter instead of being, more conveniently, placed at the bottom of the relevant page; 4) the typographical emphasis of certain quotations, the modernization of units of measurement, and the (unreported) correction of some errata; and 5) a more comprehensive bibliography than that of Brouzeng.

In her introductory essay, Sophie Roux astutely proposes to retrace the reception of *La théorie physique* in the 20<sup>th</sup> century, and thus to explain to the reader why this renowned work was so little-read and largely misunderstood for so long, and therefore why the time has come to read it in its entirety and its authenticity. In order to achieve this, she identifies three stages within this reception. The first takes us from

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the genesis of this work to its first reception in France (1892-1940), emphasizing the part that was due to its complex stance (against the positivists and equally against the neo-Thomists), to its religious convictions and its scientific choices (against atomism and against relativity) in light of Duhem's lack of influence during this period. The second, which is undoubtedly more original, analyses the reception, still in France, of this historic Duhemian work by comparing it to that of Alexandre Koyré (1940-1970). Even if such a comparison may seem appropriate, the proposed ideas themselves are certainly not: it will surely retain the interest of the specialists, without necessarily obtaining their full approval. Finally, the third stage (1950-1985) leads us initially to the German-speaking countries (with the Vienna Circle), then on to the Anglophone countries (with post-positivism), and deals with the social, political and religious “decontextualization” of the work, all of which afford a better global understanding from a contemporary perspective. Aside from the overall accuracy of the ideas expressed, the entire text is compelling due to its conciseness, clarity and the quality of expression.

Even if, as we have just observed, the reading of this introductory essay undoubtedly reflects the editor's ability to successfully meet the challenge of composing an introduction to a book – especially one as eager to flee its misleading labelling as Duhem's most renowned work – unfortunately, this examination also reveals that it may hold little interest for those seeking attention to detail. Indeed, Duhem died in 1916, and not in 1917 (p. 12 et p. 14); Brouzeng's forename was 'Paul' and not "Pierre" (p. 6); *La théorie physique* first appeared as various installments in the *Revue de philosophie* and not in the *Revue des questions scientifiques* (p. 7); Duhem was not elected “Corresponding Member in the Physics section of Academy” in 1913 (p. 12), but rather ‘Corresponding Member’ in the Mechanics section in 1900, and ‘Non-Resident Member’ in 1913; even if “Marcellin” is indeed a forename (p. 12), in Berthelot's case, his is the variation ‘Marcelin’; the name of the great French mathematician is spelt ‘Hermite’ and not Hermitte (p. 12); read ‘Octave Manville’ rather than “Octave Mandeville” (p. 12); P. Humbert's book came out in 1932 and not 1933 (p. 12); it was not to P. Humbert that Duhem was replying, upon the occasion of the appointment of a Chair for the General History of Science at the *Collège de France*, regardless of his possible return to Paris as a theoretical physicist (p. 12), but to E. Jordan; Humbert's text is, in this context, merely a quote from Jordan's (cf. E. Jordan, *Pierre Duhem*, in *Mémoires de la Société des sciences physiques et naturelles de Bordeaux*, 1917, p. 16); Duhem's book of 1902 was called *Les théories électriques de J. Clerk Maxwell: Étude historique et critique* and not *Théorie historique et critique [sic] de J. Clark [sic] Maxwell : étude historique et critique* (p. 25); the review dedicated to *La théorie physique* by G. Lechalas has a title, namely *M. Duhem et la théorie physique*, and was published in 1909 in *L'année philosophique* rather than in 1910 in a journal entitled *l'Année de philosophie* (p. 26). Consulting our Duhemian bibliography (unmentioned) would undoubtedly have avoided many of these errors.

Similar inaccuracies are also, naturally, to be found in her Duhemian text annotations: the *Revue des questions scientifiques* never went on to be called “*Revue scientifique*” (p. 75, n. 12) for the simple reason that there was already a review of that title in existence, as is evidenced by F. Mentré's article which is clearly mentioned (p. 248, n. 79); the fundamental letter which Duhem penned to his friend J. Récamier cannot be categorically assigned to the year 1906 (p. 116, n. 68) – we mentioned it previously as having been written “undoubtedly after 1906” (J.-Fr. Stoffel, *Le phénoménalisme problématique de Pierre Duhem*, p. 79), and, at present, we can safely date it to around 1915, which makes it coeval to Duhem's frame of mind at the time of *La science allemande*; lastly, his 1911 book, which apparently marks the apotheosis of his scientific work according to our fellow scholar, is entitled *Traité d'énergétique ou [and not « et »] de thermodynamique générale* (p. 249, n. 94).

Displeasing in the context of an introductory essay, this lack of attention to detail becomes a great deal more problematic when one's primary objective is editing a text. Even if the body of the text seems to have been accurately reproduced within this current edition of *La théorie physique*, one certainly has grounds to mistrust the transcription of Duhem's own footnotes. Indeed, beyond the rather inexplicit statement that “some additions [were] made [by the editor] to the bibliographical references” (p. 5), it should be understood that these notes were instead extensively revised (and not just complemented) in order to render them both more precise and more in line with current bibliographic standards. Unfortunately in the present case, this objective, although commendable in itself, proves rather difficult to achieve for three main reasons: 1) Duhem's text is often severely altered to the point where the valuable information it contained is lost (for example, the reference number given to a letter in an edition of his correspondence, or the title of a chapter or section referred to specifically), mistakes appear where there were none (at the risk of raising

suspensions that Duhem, since he had made errors in his references, may not have hesitated to refer books he had never consulted), and this without even systematically rectifying the erroneous references present in the Duhemian text; 2) the reader is kept in the dark as to the changes effected and as to their extent, since these are neither explicitly stated nor typographically documented; 3) lastly, these alterations, incoherent as they are, do not seem to adhere to any form of systematic implementation resulting from clearly predefined principles. In deference to those who pay attention to the footnotes – and especially to those for whom it is their primary focus of study – the text of the Duhemian footnotes should have been faithfully transcribed, as well as the bibliographical references systematically checked, before distinctly claiming to offer a more complete version. Instead, in her eagerness to improve and modernize the Duhemian bibliographical references, the editor provides the French translation of city names, Gallicizes authors' names, reduces forenames to their initials, and transforms publications years, which were furnished in Roman numerals, into Arabic numerals. By effecting all these modifications, one naturally runs the risk of introducing errors. Here are a few examples (bearing in mind that we indeed checked each one to be quite sure that they were neither necessary nor appropriate): “MDXCVI” becomes “1615” (p. 75, n. 14); “MDCXXVI” becomes “1636” (p. 245, n. 14); “MDCCLI” becomes “1606” (p. 246, n. 20); and “MDLVII” becomes “1556” (p. 247, n. 51).

These errors, resulting from the author's commendable desire to amend the Duhemian notes, are evidently compounded by those due to inaccurate transcription. To further illustrate this point: “*Essai sur la théorie physique*” instead of “*Essai sur la notion de théorie physique*” (p. 75, n. 11); “t. I” instead of “t. IV” (p. 75, n. 13); “*Lectures on Molecular*” instead of “*Notes of Lectures on Molecular*” (p. 114, n. 23); “Syperum” instead of “Sygerum” (p. 245, n. 9); “1558” instead of “1588” (p. 245, n. 6); “1646” instead of “1640” (p. 247, n. 57); and “XXVII” instead of “XXXVII” (p. 247, n. 65).

Finally, we would like to specify that this review was based on the version directly transmitted to us, i.e. the version dated 2 September 2016 – it is therefore possible, and even desirable, that some or even all of these detected errors have since been corrected.

In conclusion, while we invite all those interested in Pierre Duhem, both the historical figure and his philosophy, to read Sophie Roux's introductory essay, we do urge those for whom the accuracy of the text is primordial, to consider whether it may be worth adhering to Paul Brouzeng's classic edition, especially considering the fact that no link between these two editions is provided in this editor's contemporary version.