CONFERENCE ON
THE "HISTORIOGRAPHY OF MATHEMATICAL SYMBOLISM"

MONDAY 15-FRIDAY 19 SEPTEMBER 2025, EDINBURGH

Organized by

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Call for Papers

In the context of the British Academy Global Professorship held by Karine Chemla at the University of Edinburgh (2024-2028) (Award reference: GP23\100312), we invite proposals for papers on the conference topics as described below. Please email your abstract (maximal length 2500 characters) in English as well as a short curriculum vitae to Karine Chemla, karine.chemla@ed.ac.uk, with a cc to agathe.keller@u-paris.fr and antoni.malet@upf.edu, to arrive by February 28 at the latest.

Conference Topics

General histories of mathematics seem to agree with the idea that Vieta should be regarded as the first practitioner to introduce symbolic computations in mathematics. However, this conventionnal historiography of mathematical symbolism has regularly been challenged. Guglielmo Libri (1803-1869) put forward the thesis that in the 13th century Fibonacci already used similar notations. Franz Woepcke (1826-1864) noted the use of similar types of signs in Diophantos' *Arithmetica* and in Sanskrit works translated into English by Henri Thomas Colebrooke in 1817. Woepcke also reported on his discovery of a 15th-century mathematical work from the Maghreb which he believed testified to the introduction of a form of symbolism into Arabic mathematics. Some decades later, Bibhutibhusan Datta and Avadesh Narayan Singh's *History of Hindu Mathematics* further claimed that Sanskrit works testified to the use of mathematical symbolisms. The same holds true for the historiography of mathematical sources written in Chinese. These documents (and others) have been ever since at the center of discussions dealing with both the actual historical origins of mathematical symbolism and its meaning for mathematics. Furthermore, in a different vein, other points of views on the history of mathematical symbolism have been discussed. Thus, in the 1930s, Otto Neugebauer put forward the thesis that the sumerograms used in cuneiform texts played the part of mathematical symbols, in particular because they did not correspond to spoken words. More recently and for a similar reason, Charles Burnett suggested that the decimal place-value notation could be regarded as a form of mathematical symbolism.

This conference will focus on the history of the historiography of mathematical symbolism. The point is not to determine who was actually the first to introduce such notations into mathematics, but rather to analyse what gave rise to these various claims and what historical and philosophical presuppositions about mathematical symbolism underpinned them. Indeed, the claims mentioned above as well as many others illustrate the variety of assumptions about mathematical symbolism that historical analyses have brought into play. It is from this perspective that the conference is interested in the debates to which this issue gave rise.

The conference has two main aims. The first is precisely to explore the historical shaping of the view that mathematical symbolism originated with Vieta. Secondly, the seminar also hopes to examine the properties and the virtues of mathematical symbolism that different actors have

foregrounded in their historical analysis. As such, we are interested in different notions of symbol at play in historians' work only in as much as it explains what they understand as symbolism. For example, what features of symbolism were perceived as central when the claim that symbolism was Vieta's invention was (unsuccessfully) challenged by historians on the basis of sources in, e.g., Arabic, Chinese, Latin and Sanskrit? And also, what facets of symbolism have remained overshadowed, or been treated as deriving from properties of symbolism perceived as primary?

Both aims lead to some pivotal questions. A prominent facet of the historical importance given to Vieta's work in relation to mathematical symbolism is the use of literal computation. How did different historians and philosophers understand the specificities and the virtues of this type of computation? How have Vieta's works cast a shadow over most historical discussions on the subject? More largely, what facets of symbolism have been emphasized in relation to the claim that mathematical symbolism was a European invention?

These topics will be first explored in a hybrid seminar, whose program you will find here: https://edin.ac/4aqArkm, and to which all are welcome.

The conference will also be in hybrid form. Authors of selected paper will be invited to be physically in Edinburgh, the costs of their stay and boarding being covered by the project.

The dates of the related seminar are:
4 February, 18 March, 1 April, 13 May, 17 June 2025, 1pm—5pm