

## **Seminar SAW**

### **Seminar Exploring 19th and 20th centuries historiographies of mathematics in the ancient world 2015-2016**

organized by  
Karine Chemla, Matthieu Husson, Agathe Keller, Christine Proust and the SAW group

**Université Paris Diderot, Condorcet Building**  
**room 483A - 9:30 am to 5:30 pm**

<http://sawerc.hypotheses.org/seminars/internal-seminar-historiography-2015>

**Programme – May 20<sup>th</sup>, 2016**

### **Historiography of comparison & Historiography of circulation, with a particular reference to the ancient mathematical sciences**

**Presentation** – Comparison has been an essential operation since the beginning of the historical approaches to ancient mathematical sources coming from everywhere in the world. This holds true for mathematics as well as much more widely. This workshop aims to address the following issues, based on the historiographies of mathematics and other disciplines. What has been compared with what? Were the comparanda of the same nature, or were they totally different? For which entities were the comparanda understood to stand for? How was comparison carried out? Were models for comparing taken from other disciplines (philology, natural history, ...)? Was the aim of the comparison to inquire into a contrast between the comparanda, or was it to inquire into similarities, in order, for instance, to take them as a basis to deal with questions of circulation of knowledge? How wide was the focus of the comparison? Was comparison carried out between two facts, between two types of approaches to similar entities, between two contexts, between two regions of the world? What were the factors taken into account in the comparison?

**Justin Smith**, *The 'Hard Problem' of Comparative Intellectual History: The Case of Europe and India*

**Pascale Rabault**, *Oriental languages and the development of comparative linguistics in the 19<sup>th</sup> century*

**Francesca Rochberg**, *The Ancient Astral Sciences of Babylonia and the Greco-Latin World: Highways and Byways of Comparison*

**Karine Chemla, CHEN Zhihui, Daniel Morgan & ZHOU Xiaohan Célestin**, *19<sup>th</sup> century uses of comparison in the historiography of mathematics and astral sciences in China*

**Justin Smith** (SPHERE, Université Paris Diderot)

*The 'Hard Problem' of Comparative Intellectual History: The Case of Europe and India*

**Abstract** – In this presentation I would like to outline some broad methodological and historiographical considerations that may help to make clear what it is we are undertaking when we undertake to study 'Indian philosophy'. The 'we' here is meant to refer, principally, to scholars and readers who started their intellectual careers with a different default conception of philosophy, for whom 'European' or 'Western' philosophy remains, to speak with the structuralists, the unmarked category. The purpose is not to undertake a study of comparative philosophy, in which the questions and arguments of one tradition are measured against those of another. There is significant scholarly controversy as to the best methods, and even as to the worthwhileness, of such comparative study. Comparison, at a minimum, requires a theoretically neutral standpoint that precludes the possibility of interpreting one of the doctrines or traditions under comparison in terms of the other. According to G. E. R. Lloyd, there are in fact two core principles that must be adopted for any meaningful comparison: one must avoid generalization, and one must also avoid a 'piecemeal' approach, placing individual theories alongside one another "as competing answers to the same (probably modern) question about the 'nature of reality'." But if we do not presume to know at the outset what the questions are to which ideas and arguments are intended as answers, then our research will necessarily be focused on finding these questions, a task which depends largely on discovering "the characteristic interests which informed [the] activities in specific social settings" of the historical figures we are studying. Thus, I would like to investigate what might be called 'the hard problem' of comparative intellectual history: how to set about the project at all, in the absence of pre-given questions selected from the one tradition or the other.

**Pascale Rabault-Feuerhahn** (UMR Pays germaniques/Transferts culturels CNRS-ENS, Paris)

*Oriental languages and the development of comparative linguistics in the 19<sup>th</sup> century*

**Abstract** – In the historiography of linguistics, the German linguist Franz Bopp (1791-1867) is generally considered as a key figure in the rise of the scientific comparative approach to languages. Basing on this assumption, there is a tendency to make a strong distinction between 18th and 19th century linguistics, but also between the French and the German linguistic traditions. Comparative grammar is described as a conscious alternative to the previously existing French tradition of « grammaire générale ». Given that Franz Bopp demonstrated the existence of the Indo-European family of languages on the basis of his knowledge of Sanskrit, the birth and development of Sanskrit studies in Europe is justly considered as a major cause for this paradigmatic shift. Yet one must not forget that Franz Bopp learnt Sanskrit in Paris, where he was also a student of Antoine Isaac Silvestre de

Sacy in Persian. Silvestre de Sacy was both a Persian and Arabic scholar and a prominent representative of “grammaire générale”. He was also instrumental in founding the chair of Chinese and the chair of Sanskrit at the Collège de France in 1814. Against this background, this paper aims to examine some aspects of the role of Oriental linguistics in the development of the comparative method in 19th century Europe. If it meant a shift from the universalizing perspective of “grammaire générale” to the more particularistic approach of comparative linguistics, how do we have to understand the claim of most contemporary Oriental scholars that the various branches of Oriental scholarship aimed at making the picture of humanity complete?

**Francesca Rochberg** (University of California, Berkeley, USA)

*The Ancient Astral Sciences of Babylonia and the Greco-Latin World: Highways and Byways of Comparison*

**Abstract** – The discoveries of cuneiform Babylonian astronomy and astrology on one hand and Hellenistic Greek scientific texts dealing in astrology and alchemy on the other both had an impact on the historiography of science, necessitating a thorough re-evaluation of the nature of ancient Near Eastern and Mediterranean science. First, Babylonian mathematical astronomy challenged probably the most entrenched idea about the history of science for much of the Twentieth Century, namely, the idea that science originated with the Greeks. Second, in light of Greek astrology the post-positivist turn in the history and philosophy of science abandoned the idea that ‘magic’ and ‘science’ were mutually exclusive universal ahistorical categories and that Greek science could no longer be seen in wholesale contrast to Babylonian as exemplifying rationality and progress. This lecture addresses the comparative rationality of the ancient Near Eastern versus Greek and Greco-Latin traditions of astronomical science in terms of the historiography of comparison and its pitfalls.

**Karine Chemla, CHEN Zhihui, Daniel Morgan & ZHOU Xiaohan Célestin**

(ERC Project SAW & SPHERE, UMR 7219, CNRS & Université Paris Diderot)

*19<sup>th</sup> century uses of comparison in the historiography of mathematics and astral sciences in China*

**Abstract** – At the end of the 18th century and during the 19<sup>th</sup> century, various milieus in Europe and in China developed an interest in the history of ancient mathematics and astral sciences in ancient China. How was comparison between different bodies of mathematical knowledge, or different mathematical practices, instrumental in the approach to this field of inquiry? This is the main question this talk will address. We will examine in particular how comparison between different areas of the planet in this respect (“horizontal comparison”) affected the aims practitioners of history set for their historical inquiry, and how it affected their methods. We will also be interested in their practice of comparison, and the different meanings they attached to comparisons. Finally, we will also analyze how “vertical comparisons” (comparisons between different moments in the history of China) were carried out, and how horizontal and vertical comparisons interacted with each other, both in the context of mathematical activity at the time, and in the context of historical inquiry.