

## **Seminar SAW**

### **Seminar History of Science, History of Text**

organized by Karine Chemla, Agathe Keller and Christine Proust and all the HSH group of the project SAW

Université Paris Diderot Condorcet Building - Room 483A - 9:30 am to 5:30 pm

<http://sawerc.hypotheses.org/seminars/history-of-science-history-of-text>

## **Programme November 2015 - June 2016**

### **Contents**

Presentation.....	2
Programme.....	3
November 25th, 2015 - Workshop on Zhangjiashan tomb 247 - a tomb sealed around 186 BCE in China and containing a 'math book'.....	3
December 10th, 2015 - Theoretical and Linguistic approaches to scientific texts of the past.....	7
January 7th, 2016 - Working on ancient mathematical sources: Textual environment and historiographic operations.....	9
February 11th, 2016 - Discussing how language shapes thought.....	11
February 12th, 2016 - A lecture by Tsuka Benes (College of William & Mary, VA, USA).....	13
March 10th, 2016 - Parts of texts and writing by compilation.....	14
April 14th, 2016 - Genres of writing in the history of ancient science.....	16
May 2nd and 3rd, 2016 - Conference with the Center for the study of manuscript cultures of Hamburg University, on "Mistakes and the study of manuscripts".....	17
May 12th, 2016 - Printing scholarship.....	18
June 9th, 2016 - Perspectives on the constitution of collections containing scientific documents of the past.....	20

## Presentation

In 2015-2016, the seminar 'History of Science, History of Text' will keep exploring textual problems related to the ERC [Project SAW](#) — "Mathematical Sciences in the Ancient World".

Like in the previous years, the seminar will address the following issues regarding scientific sources:

- How textual sources bear witness to the social groups that produced them
- How textual sources testify to knowledge
- History of compilations
- How actors structure their texts and knowledge into parts
- How textual sources reflect the material environment in which they were produced

In line with the beginning of phase 3 of the project SAW, devoted to facets of the history of the historiography of ancient mathematics, the seminar will pay special attention to the sources attesting to work in the history of mathematics.

Finally, a conference devoted to "Mistakes and the study of manuscripts" will be co-organized with the Hamburg Center on Manuscript Cultures on April 21-22, 2016.

## Programme

### **November 25<sup>th</sup>, 2015 - Workshop on Zhangjiashan tomb 247 - a tomb sealed around 186 BCE in China and containing a 'math book'**

organized by Daniel Morgan (ERC project SAW and SPHERE), Karine Chemla (ERC project SAW and SPHERE), Alain Thote (EPHE-CRCAO), Olivier Venture (EPHE-CRCAO)

**Presentation** - From an observer's viewpoint, the contents of a tomb like Zhangjiashan M247 can be disorientingly eclectic. And albeit arranged as a coherent whole by early Chinese actors, we historians tend to divvy such contents amongst us: the casket and pottery to the archaeologists, and the manuscripts to paleographers; regulations and ordinances to legal scholars, and recipe slips to historians of medicine. The aim of this workshop is to run counter to this practice and to explore what might be gained from approaching the tomb in its ensemble.

We already rely on one another's puzzle pieces to situate our own, though we may not always understand the picture emerging in the other's corner. We date the tomb to 186 BCE because of the "calendar," but what do we really know about tomb and non-tomb calendrical tables? We identify the disintegrated occupant as a literate low-level administrator, but how expert are we in the funerary items and administrative texts upon which this assumption lies? One of the goals of this workshop is to debrief one another on the status of our own puzzle piece as it constitutes an element of context common to all (both within the tomb and the broader society and intellectual culture of the period). Equally valuable is sharing what our approaches to disparate tomb objects have taught each of us about their biography. We all want to know about how and why the manuscripts were produced, about the identity of the tomb occupant, and about what we can do with the archeological cross section of the manuscript horde (the last page of the Zhangjiashan M247 report), but the archaeologist is not always up to speed about the historian of mathematics' analysis of scribal hands, nor the historian of mathematics about the legal historian's work on physical and textual order, etc. The second goal of this workshop is therefore to debrief one another on how our materials may speak to common interests in manuscript studies.

To understand a single facet of a given tomb, we must strive to understand all of them, which is why we have decided to gather experts on fields as diverse as the contents of M247 itself to discuss the tomb, its manuscript corpus, and points of common interest concerning the production and transmission of text in early China. Papers will of course be focused on, rather than limited to, the M247, as the tomb and its contents are themselves pieces in a larger puzzle.

We have chosen Zhangjiashan M247 because it provides an ideal point of convergence between our respective specialties, and because our experience with the tomb's archaeological context and scribal hands has convinced us as organizers of the potential richness of focused exchange thereupon.

**Alain Thote**, *Les manuscrits de la région de Jingzhou au IIe s. avant notre ère : contexte archéologique*

**Enno Giele**, *Tombs and Money*

**Daniel Morgan**, *What can you do with a Calendar? Extracting Facts, Stories, and Information otherwise pertinent to your own Field from a Table of Dates*

**Ulrich Lau**, *The legal manuscripts from Zhangjiashan tomb 247 revisited*

**Thies Staack**, *Legal Manuscripts from Tombs: Some Reflections on their Possible Compilation, Use and Function*

**Alain Thote** (EPHE, CNRS-CRCAO, France)

*Les manuscrits de la région de Jingzhou au IIe s. avant notre ère : contexte archéologique*

**Abstract** - La tombe 247 de Zhangjiashan n'ayant pas été bien publiée à ce jour, il est impossible d'en étudier la forme et le contenu avec toute la précision requise. On s'emploiera plutôt à mettre en perspective cette découverte en faisant une synthèse des découvertes de la région qui en sont contemporaines, et en explorant les différents problèmes soulevés par la présence de manuscrits dans un petit nombre de tombes, parmi des milliers. La question des inventaires funéraires qianci 遣冊 sera aussi évoquée.

**Enno Giele** (Universität Heidelberg, Germany)

*Tombs and Money*

**Abstract** - Ancient coins play a crucial role in archaeology. The presence or absence of datable denominations is often the basis for finding date ranges for ancient tombs as well. Tomb no. 247 at Zhangjiashan, however, thanks to its abundant legal manuscripts that contain different kinds of statutes and reports on money and other economic matters, allows us to consider the uses of ancient money outside tombs as well. The present paper will attempt to investigate the roles that money and texts on money may play in our interpretations of the Zhangjiashan and comparable tombs.

**Daniel Morgan** (SPHERE, CNRS & Université Paris Diderot, SAW Project)

*What can you do with a Calendar? Extracting Facts, Stories, and Information otherwise pertinent to your own Field from a Table of Dates*

**Abstract** - The 'calendar' is one of the most common genres of manuscript extant from the Qin-Han era, and it is also one of the least studied. This is for good reason: even in the rare cases where they

provide support for noting matters of public/private business and taboos, calendars barely have any story to tell except indirectly, in aggregate, via mathematical analysis. Rather than delve ourselves into questions as foreboding as the nature and workings of time, most of us rely upon the analyses of others to make use of these documents, particularly as relates to dating the excavated corpora to which they belong. In this talk, I shall provide a layman's summary of what has been done with such sources to date and what use I think that any scholar of early China might derive from them. To begin, I will provide a typology of 'calendars' recovered from this period and discuss where the untitled lunation table from Zhangjiashan tomb 247 fits into the broader scheme of civil timekeeping. From there, we will narrow our focus to Zhangjiashan and examine how this specific 'calendar' relates to the rest of the tomb contents in terms of textual production, date, and function. Importantly, we will ask, for example, how the date of excavated 'calendars' are determined and what relationship we should expect them to bear with adjacent materials; we will also ask what handwriting analysis might reveal about the copying of the more evidently 'personal' texts in a given tomb. Above all, the question will be 'How do I, as a scholar of administrative, medical, philosophical, or literary text, make simple use of calendars, and what rules of thumb should I bear in mind when assessing.

**Ulrich Lau** (University of Hamburg, Germany)

*The legal manuscripts from Zhangjiashan tomb 247 revisited*

**Abstract** - Distinctive peculiarities of the legal manuscripts from Zhangjiashan tomb 247 become apparent by comparing them with recently discovered legal manuscripts from Qin which have been purchased in 2007 on the antique market in Hongkong by the Yuelu Academy Changsha. They both contain a collection of exemplary criminal cases and a compilation of statutes and ordinances. Comparative study of these manuscripts promise to provide new evidence relating to the formation of Chinese legal terminology, of the system and hierarchy of punishments and of principles for determining punishment. Different stages and many details of criminal procedure can be analysed on the basis of exemplary criminal cases. The paper will show that there were different reasons for why a particular case had exemplary character and was suited for being included into the collection. The reasons varied depending on the category to which a case belongs. It is therefore necessary to classify the cases according to inherent formal and content-related criteria. The paper will mainly focus on those categories which were new in the manuscripts from Zhangjiashan. The investigation of both collections of legislative texts has indicated differences in the number of statutes, in the wording of statutory provisions and in the subsumption of individual provisions under statutes. Some reasons for the selection of statutes and ordinances will be explored. In a further step, the paper will deal with the legal manuscripts in relation to the tomb occupant. This raises the question of whether hints on his background, social status and profession can be found in the legal and

other manuscripts. Finally, the legal manuscripts will be considered in the context of other tomb texts from Zhangjiashan, in order to determine whether and how law and other important fields of early Chinese knowledge were interrelated.

**Thies Staack** (CSMC, University of Hamburg, Germany)

*Legal Manuscripts from Tombs: Some Reflections on their Possible Compilation, Use and Function*

**Abstract** - During the last forty years students of early Chinese law have - like all scholars in the field of early Chinese history more generally - witnessed a rapid increase of their sources. Manuscripts that were excavated from different sites such as tombs or ancient wells have highly enriched the picture we have of pre-imperial and early imperial law. While most research in this area was and still is done by historians of law who are mainly interested in texts and their content, comparatively few researchers have focused on the materiality and the context of the manuscripts which contain these texts, be they collections of statutes or ordinances, criminal case records, or others.

This paper will investigate legal manuscripts from two different collections that were (certainly or at least very likely) excavated from early imperial tombs: The manuscripts from Zhangjiashan tomb no. 247 and those in the Yuelu Academy collection. How were the legal manuscripts in these collections compiled and what might have been the motives behind this? Were the manuscripts made especially for burial or had they originally been used by a legal official during his work or as teaching material? Do we find traces of use and/or editorial work (corrections, collation marks, etc.)? A codicological and palaeographical analysis could shed some light on these and related questions. And although the old question why (legal) manuscripts were put into tombs might not be solvable, it might prove useful to know whether the manuscripts from the two mentioned collections had a "life" before they became burial objects, and if so, what that life was probably like.

## December 10<sup>th</sup>, 2015 - Theoretical and Linguistic approaches to scientific texts of the past

**Presentation** - This session of the seminar will explore several theoretical tools that could be useful for historians of science (linguistics of parts of texts; Harris's sublanguages; the use of clues and traces).

**Julie Lefebvre**, *«Parts of text» and «parts in text»: towards a differentiation*

**Maarten Bullynck**, *Sublanguages, their use in the history of science, an exploration*

**Martha Cecilia Bustamante**, *Some comments regarding Paul Ricoeur's view on trace*

**Julie Lefebvre** (Université Paris Ouest)

*«Parts of text» and «parts in text»: towards a differentiation*

**Abstract** - In this contribution, we will work with the notion of «text» defined as an entity resulting from the organisation and from the structuration of a graphic linearity in «parts» such as the chapter, the page, the quotation or the figure. The textual units that are composing these «parts» are engaging neighbouring and sometimes same components of the written discursivity, in particular the layout and the «paratextual» activity. Analysing different textual parts extracted from contemporary scientific texts, we will try to show that even though they present many formal similarities, it is important, in the frame of the reading and of the interpretation of texts, to distinguish two types of textual parts — «parts of text» and «parts in text».

*«Parts de texte», «parts dans le texte» : éléments pour une différenciation*

**Résumé** - On s'intéressera ici au «texte» comme entité résultant de l'organisation et de la structuration d'une linéarité graphique en «parts» telles que le chapitre, la page, la citation ou encore la figure. Les unités textuelles que constituent ces «parts» ont pour particularité d'engager sur des modes proches et parfois identiques certains composants de la discursivité écrite — ainsi notamment de la mise en page, et de l'activité «paratextuelle». En nous appuyant sur l'analyse de différentes parts textuelles relevées dans des textes scientifiques contemporains, nous essaierons de montrer qu'au-delà des similitudes formelles observées, il est important, dans la perspective de la lecture et de l'interprétation des textes, de distinguer deux grands types de parts textuelles — les «parts de texte» et les «parts dans le texte».

**Maarten Bullynck** (Université Vincennes Saint Denis)

*Sublanguages, their use in the history of science, an exploration*

**Abstract** - The concept of sublanguages was developed by Zellig

Harris in the 1970-1990 during a project of information retrieval. A number of questions on the interactions between sublanguages, their relation with language in general, their evolution or their intertwinings with non-linguistic practices have hardly been investigated. I want to explore these questions using examples from the history of mathematics.

*Sous-langages, leur usage en histoire des sciences. Une exploration.*

**Résumé** - Le concept des sous-langages a été développé par le linguiste Zellig Harris dans les années 1970-1990 dans le contexte de la mise au point de techniques pour le repérage des données (information retrieval). Un certain nombre de question sur les interactions entre les sous-langages, sur leur relation avec la langue ordinaire, sur leur évolution et sur leur imbrication avec des pratiques nonlinguistiques, n'a guère encore été étudié. Je veux creuser ces questions en utilisant des exemples tirés de l'histoire des mathématiques.

**Martha Cecilia Bustamante** (ERC Project SAW & SPHERE, CNRS & Université Paris Diderot)

*Some comments regarding Paul Ricoeur's view on trace*

**Abstract** - We will focus in this presentation on the work of Paul Ricoeur's *La Mémoire, L'Histoire, l'Oubli*, published in 2000. We will consider the theme of the trace that passes through it and we will focus on the issue of different types of traces, as well as the problems that this generate. Our argumentation is based on a book by Ricoeur as well as on recent publications devoted to both the notion of trace and how it appears in other authors but especially in Ricoeur.

*Quelques commentaires sur la notion de trace chez Paul Ricoeur*

**Résumé** - Nous nous intéresserons dans cet exposé à l'ouvrage de Paul Ricoeur *La Mémoire, L'Histoire, l'Oubli*, publié en 2000. Nous considérerons la thématique de la trace qui le traverse et nous mettrons l'accent sur les différents types de traces, ainsi que sur les problématiques qu'elles suscitent. Nous utilisons pour notre argumentation l'ouvrage lui-même de Ricoeur mais aussi des publications récentes consacrées à la fois à la notion de trace et à la façon dont elle apparaît chez d'autres auteurs mais surtout chez Ricoeur.



## January 7<sup>th</sup>, 2016 - Working on ancient mathematical sources: Textual environment and historiographic operations

**Presentation** - This session is devoted to examining key operations at play in the shaping of documents that constitute sources for historians of science and ways in which historians rely on these sources in their work.

**CHEN Zhihui**, *On the Rediscovery of the Jade Mirror of the Four Origins, and its Interpretations by Luo Shilin and Shen Qinpei*

**Pierre Chaigneau**, *The use of algebraic formulas in the commentaries on mathematical cuneiform texts: the case of the tablet BM 85196*

**Matthieu Husson**, *Editing a Zij at the turn of the 20th century : the case of Carlo Alfonso Nallino (1872-1938)*

**CHEN Zhihui** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)  
*On the Rediscovery of the Jade Mirror of the Four Origins, and its Interpretations by Luo Shilin and Shen Qinpei*

**Abstract** – The *Jade Mirror of the Four Origins* (*Siyuan yujian* 四元玉鑑, hereafter *SYJ*), which was completed by Zhu Shijie in 1303 and rediscovered in 1800s, is a mathematical monograph about the system of simultaneous equations of multi-unknowns (up to four). However, this treatise represents a form of “problem-answer-solution”, and Zhu Shijie just wrote a very concise solution for each problem. After its rediscovery, scholars made efforts to recover Zhu Shijie’s original intention in the solutions and to interpret the reason for the establishment of the method (立法之由). This talk analyses Luo Shilin’s (羅士琳 1789-1853) *Detail Account* and two manuscripts of *Detail Account* with different commentaries by Shen Qinpei (沈欽裴 fl. 1820s), to examine the ways in which they interpret the *SYJ*.

**Pierre Chaigneau** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*The use of algebraic formulas in the commentaries on mathematical cuneiform texts: the case of the tablet BM 85196*

**Abstract** – In commenting mathematical cuneiform texts, Neugebauer and Thureau-Dangin used algebraic formulas. Clearly such formulas are absent from the sources. So what was at stake when these editors used them? The issue is raised here in the case of the commentaries on the tablet BM 85196. The point is less to discuss about the danger of anachronisms in historical approaches than to question the use of

algebraic formulas as an editorial practice: why are they used? How? Are they merely used for the reader to understand or as a tool for the editor in further decipherments?

*L'utilisation de formules algébriques dans les commentaires sur les textes mathématiques cunéiformes : le cas de la tablette BM 85196*

**Résumé** - En commentant des textes mathématiques cunéiformes, Neugebauer et Thureau-Dangin utilisaient volontiers des formules algébriques. Il va de soi que de telles formules sont absentes des sources. Qu'est-ce qui est en jeu lorsque ces éditeurs les utilisent ? La question est posée ici dans le cas des commentaires à la tablette BM 85196. Il s'agit moins de discuter du danger des anachronismes dans les démarches en histoire que de mettre en question l'utilisation de formules algébriques en tant que pratique éditoriale : pourquoi en utiliser ? De quelle façon ? Sont elles simplement là pour aider le lecteur à comprendre ou bien sont elles utilisées par l'éditeur comme un outil pour les déchiffrements ultérieurs ?

**Matthieu Husson** (ERC Project SAW & SYRTE - CNRS & Observatoire)

*Editing a Zij at the turn of the 20th century : the case of Carlo Alfonso Nallino (1872-1938)*

**Abstract** - Nallino's edition of al-Battani's *Sabi zij* was elaborated over ten years between 1899 and 1909. It consists of three volumes: volume I presents a Latin translation of the text; a transcription and emendation of the tables are found in the second volume, whereas volume III gives an edition of the Arabic text. Nallino worked mainly from a single manuscript (Escorial ms. Arabe 908) which is up to now the only known complete manuscript of the work. He was associated to the famous Italian astronomer Giovanni Schiaparelli (1835-1910) for his technical work on the tables.

We will begin by a short presentation of these two scholars and the kind of interest they had in ancient sciences. This will give us the context in which the project of Nallino's edition was formed, the types of motives and purposes it had. From this it will be possible to analyse the way Nallino and Schiaparelli worked with the tables in the Escorial manuscript, their treatment of scribal and computational errors, in order to assess how their methodological means relates to their project. We are in a favourable situation to do this because half of volume I and II of Nallino's edition is taken up by his own comments on the documents and the way he worked with it. Moreover in 2008 Benno van Dalen and Fritz S. Pedersen published a technical survey of Nallino's edition from which we will depend as well.

## February 11<sup>th</sup>, 2016 - Discussing how language shapes thought

**Presentation** - Discussions of how language shapes thought, and in particular scientific thinking, became quite prominent in the 19<sup>th</sup> century, especially in relation to Wilhelm von Humboldt's writings, and the debates they generated. The session will examine how views of these kinds related to historical approaches of the sciences, and more specifically ancient mathematical sciences. Were some languages put in relation with specificities attributed to the speakers of these languages? Were they put in relation with specificities of scientific knowledge and practice evidenced among these speakers? And if so, how? Were specificities of this kind, or alleged failures, explained in terms of features of the language in which scientific writings had been composed? These are some of the questions that the session aims to explore.

**Tuska Benes**, *Mathematics after the Linguistic Turn of the Early Nineteenth Century: Three Frameworks*

**Eva Cancik-Kirschbaum**, *Encoding language - decoding script: the case of cuneiform*

**Christine Proust**, *How thought shapes language: a brief historiographical overview and some examples selected among mathematical cuneiform texts from late Old Babylonian period*

**Tuska Benes** (College of William & Mary, Va, USA)

*Mathematics after the Linguistic Turn of the Early Nineteenth Century: Three Frameworks*

**Abstract** - The early nineteenth century witnessed a linguistic turn of its own, after which European Orientalists increasingly believed language shaped thought. This paper examines the implications of this linguistic turn for European perceptions of non-western mathematics. It distinguishes three broad frameworks for imagining how language shaped thought, each with varying results for the perceived autonomy of mathematics. The tradition of general grammar will be explored first through the debate between Wilhelm von Humboldt and Jean-Pierre Abel-Rémusat over the intellectual merits of Chinese, a language whose grammar, Humboldt insisted, closely resembled a mathematical equation. Did the logical features of certain languages better equip their speakers to make scientific discoveries? The German philosopher and Orientalist Johann Georg Hamann offered a more radical, theological argument for the linguistic determination of thought. His claim that mathematics itself constituted a language will be examined second. Did the peculiarities of certain national languages shape how speakers approached mathematics and explain why particular inventions occurred among certain cultural communities? Thirdly, mapping the origin and

genealogical descent of non-western languages within comparative-historical linguistics offered a model for tracking the spread of mathematical ideas. Did the transmission of mathematical knowledge follow the same trajectories as language?

**Eva Cancik-Kirschbaum** (Freie Universität, Berlin)

*Encoding language - decoding script: the case of cuneiform*

**Abstract** - The history of decipherment of the writing systems labelled 'cuneiform' provides an interesting perspective on the role of scholarly presuppositions about language and culture. My contribution will discuss (1) the agency of some 18th/19th century (CE) concepts of correlations between language and script. I will (2) try to show, to what extent these concepts as well as perhaps the individual linguistic background of the scholars involved shaped the process of code-breaking. (3) Finally, a sophisticated method of encoding from Ancient Mesopotamia shall serve as a starting point towards a view on 'their' possible thoughts about language and script.

**Christine Proust** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*How thought shapes language: a brief historiographical overview and some examples selected among mathematical cuneiform texts from late Old Babylonian period*

**Abstract** - Some historians of Mesopotamia considered that the structure of language commanded the orientation of thought and, based on this, opposed Sumerian and Akkadian mathematical texts. I discuss this assumption through the example of mathematical texts written in Mesopotamia by the end of the Old-Babylonian period (about 17th century BCE).

**February 12<sup>th</sup>, 2016 - A lecture by Tsuka Benes** (College of William & Mary, VA, USA)

*On Language-Structure and the Indian Positional Method: The Humboldt Brothers, Comparative Linguistics, and the Autonomy of Palpable Math*

**Abstract** - Alexander von Humboldt's essay "Über die bei verschiedenen Völkern üblichen Systeme von Zahlzeichen und über den Ursprung des Stellenwerthes in den indischen Zahlen" (1829) adapted the procedures of comparative grammar to explain the origin of the Indian positional method. This paper, first, positions Alexander's argument in relation to the typology of language-structures and corresponding writing systems articulated by his brother Wilhelm in his Academy address "Ueber die Buchstabenschrift und ihren Zusammenhang mit dem Sprachbau" (1824). Unlike Friedrich Schlegel, Alexander von Humboldt declined to see the Indian method deterministically as an outgrowth of the supposedly organic, inflecting grammar of Sanskrit. Both Humboldt brothers granted considerable autonomy to the practices of palpable mathematics, adapting only by analogy the insights of linguists. Second, this paper explores the contributions comparative-historical linguists themselves, inspired by Alexander's essay, including August Friedrich Pott and the Egyptologist Richard Lepsius, made to the history of non-western counting systems.

## March 10<sup>th</sup>, 2016 - Parts of texts and writing by compilation

**Presentation** - The session deals with themes already explored in the previous years: the parts that can be identified in scientific writings, and what they document; the composition by compilations, and the material environment they require. We will also return to Zellig Harris's notion of sublanguage, and its possible usefulness for the history of science.

**Caspar Hirschi**, *Handwriting in Print: Graphological Publications during the Dreyfus Affair*

**Jacqueline Léon**, *Harris's sublanguages: intermediary objects for text processing*

**Florence Bretelle-Establet**, *Parts and Tables of Contents in Chinese Medical Texts*

**Caspar Hirschi** (Universität St.Gallen, Switzerland)

*Handwriting in Print: Graphological Publications during the Dreyfus Affair*

**Abstract** - The rise of graphology as an allegedly "exact" science in the field of handwriting analysis and forensic expertise after 1870 was closely intertwined with new print technologies that enabled the integration of handwritten parts of texts into printed documents. These parts of handwriting could range from single letters to signatures to whole manuscripts. The technology was used in scholarly books, expert reports and public posters. Its purpose was to turn readers of graphological texts into direct witnesses of handwriting analysis and thus to establish graphology as an experimental science according to the positivist ideal of the time. The Dreyfus Affair offered a great opportunity to the champions of graphology to prove the scientific reliability and public usefulness of their science. As soon as the famous «bordereau» was printed in a newspaper, graphologists used the new print technology to highlight the scientific exactitude of their analysis. However, their attempts were not crowned by success as they produced contradictory evidence regarding the authorship of the bordereau and thus added to the public confusion about Dreyfus' guilt or innocence.

**Jacqueline Léon** (CNRS, Université Paris Diderot et Université Paris Sorbonne Nouvelle)

*Harris's sublanguages: intermediary objects for text processing*

**Abstract** - Harris worked out the notion of sublanguage in the wake of the revival of interest in international auxiliary languages, machine translation interlingua, and language of sciences which prevailed in the

1950s. Harris considered that the sublanguage of a given science had an identical structure whatever the natural language in which its statements were produced, so that it could be used by all scientists, regardless of their native language. Appeared in 1968 as abstract mathematical systems, sublanguages have been used as soon as the early 1970s as intermediary languages for machine translation (of weather bulletins). In the 1990s, Harris and his research group undertook the analysis of the sublanguage of immunology in order to define its informative grammar and determine the informative structure of the sublanguage texts. In my presentation, I will trace this evolution and show how sublanguages, as they became objects for Natural Language Processing, progressively lost their abstract character and their theoretical specificities while gaining empirical features.

**Florence Bretelle Estabiet** (ERC Project SAW & SPHERE)

*Parts and Tables of Contents in Chinese Medical Texts*

**Abstract** – Relying on a set of a twenty of medical texts written and published in China in the eighteenth and nineteenth centuries, I will analyze the ways medical texts were cut into parts and what kinds of order account for it. Tables of contents will be at the focus of my research.

## April 14<sup>th</sup>, 2016 - Genres of writing in the history of ancient science

**Presentation** - Which genres can we identify in 19<sup>th</sup> and 20<sup>th</sup> century writings in the history of ancient science? How do these genres depend on their institutional and social context, and which conceptions of the history of science do they reflect?

**CHEN Zhihui & ZHOU Xiaohan**, *Establishing the orthodox: Writing and editing biographies of practitioners in the mathematical sciences in Chinese Qing Dynasty*.

塑造传统：中国清代对畴人传记的编写

**Agathe Keller**, *Listing biographies in histories of mathematics of the Indian subcontinent*

**Martina Schneider**, *History of (ancient) mathematics in the German biographical lexicon ADB*

**CHEN Zhihui & ZHOU Xiaohan** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*Establishing the orthodox: Writing and editing biographies of practitioners in the mathematical sciences in Chinese Qing Dynasty*. 塑造传统：中国清代对畴人传记的编写

**Abstract** - *The Biographies of Astronomers and Mathematicians* (*Chouren zhuan* 畴人傳, hereafter *CRZ*) edited by Ruan Yuan (1764-1849) is the first Chinese book on biographies of practitioners who specialized in astronomy and mathematics. What interests us is not only how the book deals with these practitioners' activities, works, and mathematical thoughts—which would mean we use the book as a source to enquire into the biographies of these actors—, but also the activity of writing and editing such biographies in and of itself. The enquiry into the latter subject derives from our curiosity about the efforts Confucian scholars made in Chinese Qing Dynasty to reincorporate the mathematical sciences into a Confucian orthodoxy which ruled over the legitimacy of knowledge in the ancient world. Why were these Confucian scholars at the time enthusiastic about mainstreaming the mathematical study into their philological work? Writing and editing biographies for mathematicians and astronomers is an obvious manifestation for this fact. We try to answer this question by addressing the motivations for these scholars' work. We will also examine how they composed biographies and how they edited their sources to achieve their aims. In addition, the *CRZ* is one of the significant references in the *Draft Biographies of Confucians* (儒林傳稿) which was also edited by Ruan Yuan. We will examine the biographies of some Qing scholars both in these two



books, comparing the overlaps and the differences, in order to do a case study on the role of *CRZ* during the establishment of the mathematical sciences as a part of the Confucian orthodoxy.

**Agathe Keller** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*Listing biographies in histories of mathematics of the Indian subcontinent*

**Abstract** - The first published text devoted to the history of mathematics in the Indian subcontinent authored by an Indian scholar, was a list of biographies of important Indian mathematicians and astronomers. I would like here to look at the kind of text S. Dvivedin's (1855-1910/11) sanskrit *Gaṇakatarāṅgiṇī* (River of mathematicians; 1892) produces, reflecting both on its models and its posterity in later histories of mathematics written in the Indian subcontinent. What is the structure of such a biography? What are the historical tropes associated to it? are among the questions that will be raised.

**Martina Schneider** (ERC Project SAW & Universität Mainz, Germany)

*History of (ancient) mathematics in the German biographical lexicon ADB*

**Abstract** - A national biography might seem at first a strange place to look for the history of mathematics, and even more so for the history of ancient mathematics. However, there are quite a few entries on (German) mathematicians, as well as on (German) historians of mathematics in the *Allgemeine Deutsche Biographie* (ADB) - a 56 volume national biography edited between 1875 and 1912 by the historical commission of the Bavarian Academy of Sciences in Munich.

Who are the authors of those entries? What is the format of such an entry? What do we learn about the history and historiography of (ancient) mathematics? Is it possible to say something about the readers and possible uses of these biographical entries? In my talk I will try to explore this set of questions.

**May 2<sup>nd</sup> and 3<sup>rd</sup> , 2016 - Conference with the Center for the study of manuscript cultures of Hamburg University, on ["Mistakes and the study of manuscripts "](#)**

## May 12<sup>th</sup>, 2016 - Printing scholarship

**Presentation** - In continuity with the previous session, the session will explore how we can approach the status of a field of inquiry through the way in which writings are printed, and the various media used for the circulation of knowledge.

**Henrik Kragh Sørensen**, *Appropriating role models for the mathematical profession: Biographies in the American Mathematical Monthly around 1900*

**Karine Chemla**, *Publishing on the history of mathematics at the end of the 18<sup>th</sup> and in the 19<sup>th</sup> century in France*

**ZHOU Xiaohan Célestin**, *For whom were mathematics works written? - Examining the issue from the perspective of printing mathematics in the Ming Dynasty/ -Examining mathematics in the Ming dynasty from the perspective of printing*

数学著作写给谁？——印刷视角检视下的明代数学

**Henrik Kragh Sørensen** (Aarhus University, Denmark)

*Appropriating role models for the mathematical profession: Biographies in the American Mathematical Monthly around 1900*

**Abstract** - During the decades around 1900, American mathematics underwent monumental developments that took it from a provincial position at the fringes of the mathematical community into a position from which it could compare to other nations and at some point come to dominate global mathematics. At that time, institutions were devised and shaped to promote mathematical research and instruction, and an intriguing group of individuals were moulded into the first generation of really professional American mathematicians.

In this talk, I propose to analyse the writing of history of mathematics — in this particular case the biography of mathematicians — as situated in a particular discourse of professionalization in the local settings of American mathematics around 1900. In this respect, the analysis is based on an adaptation of the meta-biographical methodology employed by Nicolaas Rupke to bring forth the “many Humboldts” appropriated for different (German) socio-political contexts (Rupke, 2008). Rupke’s approach was, however, a longitudinal one devoted to appropriations of one individual at different times over a period of almost 200 years. Here, focus will be much narrower in geographical and temporal terms, yet the subjects of the biographies will be more varied.

The talk seeks to analyse the interplay between the appropriation of past mathematicians and the shaping of a new profession of mathematicians in a local context. It first provides a brief overview of the biographical genre in the nineteenth century as it pertains to mathematics in order to also briefly address the relations between studying biographies of mathematicians and history of mathematics. It then paints a sketch of American mathematics around 1900, by drawing on biographies from the American Mathematical Monthly. This leads into three topical case studies devoted to detailed analyses of biographies published in the

American Mathematical Monthly between the inception of the journal in 1894 and 1904 when the editorial line changed to devote much less attention to biographies.

**Karine Chemla** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*Publishing on the history of mathematics at the end of the 18<sup>th</sup> and in the 19<sup>th</sup> century in France*

**Abstract** - This presentation will approach the history of the history of mathematics (especially ancient mathematics) in France at the end of the 18th century and the 19th century from the viewpoint of where and how writings devoted to this topic were published, and which form they took. It will also address the issues of the identity of the authors, their readership, and the relationship between context of publication and approach to history of mathematics.

**ZHOU Xiaohan Célestin** (ERC Project SAW & SPHERE)

*Mathematical knowledge and the books in which it was printed-Examining mathematics in the Ming dynasty (1368-1644 CE) from the perspective of printing*

**Abstract** - Modern studies on the history of mathematics in China have mainly concentrated on assessing the “level” of mathematical knowledge at the time. As a result, this period has generally been regarded as a “declining phase” in the “development of mathematics”. This evaluation has been challenged in the last few decades. Some scholars have called for re-examining the mathematics in this period from the perspective of the practical functions it had at the time. New approaches were accordingly adopted since then. However, “the aim of assessing” still haunts these historians. We suggest that to some extent we need to set this aim aside Examining the mathematics in the milieus in which they were practised and restoring their original existence appear as two issues that need to be addressed. From this point of view, we not only need to study the mathematical texts, but we must also consider the material features of the writings which recorded these bodies of knowledge. This talk will set the writing and publishing of mathematical works against the backdrop of the flourishing printing activities in the Ming dynasty, to address the issues of for whom these mathematical works were produced, the cost of printing, the tactics the works used to persuade people to learn and purchase the book, the author’s role in the progress of publishing, the inheritance (or “plagiarism”) of knowledge and the anti-counterfeiting of the printing, etc.

## **June 9<sup>th</sup>, 2016 - Perspectives on the constitution of collections containing scientific documents of the past**

**Presentation** - This session explores other facets of the working conditions of historians of science: the history of the constitution of the collections in which they find the documents that become the sources of their inquiry.

**Reviel Netz** (Stanford University , USA)

*The scale of ancient culture*

**Abstract** - The talk considers the number of books and, above all, number of authors active in antiquity. The fundamental observation is that ancient culture was big. Further claims are that it emerged rapidly; remained mostly stable for many centuries; and then went through a genuine collapse in scale in the third century CE. The question is explored, to what extent the typical features of the culture of Late Antiquity can be explained in terms of such a transition in scale.

**Florence Bretelle Establet** (ERC Project SAW & SPHERE - CNRS & Université Paris Diderot)

*The Making of the Morrison Collection of Chinese Books*

**Abstract** - Between 1807 and 1823, the Protestant missionary Robert Morrison (1782-1834) started to buy the Chinese books which were available to him in order to make a collection that would serve for Chinese studies. Since Morrison was resident in Guangzhou and Macao and had no opportunity to travel elsewhere within the empire, Morrison's book-collecting activities were restricted to Guangzhou's book market. In this talk, I will try to better understand what kinds of items were bought by Morrison and who his providers of books were.

\*\*\*\*