

**Prescription to Prediction:
The Ancient Sciences in Cross-Cultural Perspective**
6–7 October 2022, Johns Hopkins University, Baltimore

Abstracts

Troels Pank Arbøll – Assyro-Babylonian String Theory: Can We Use Treatments for Curing Diseases Affecting the Stringy Structures of the Body (*šer'ānu*) to Evaluate Ancient Medical Conceptions?

University of Oxford

Assyrian and Babylonian cuneiform texts from especially the first millennium BCE have provided a number of medical treatments designed to remove ailments, such as *maškadu* and *sagallu*, affecting the stringy structures of particularly the lower part of the body. The central Akkadian term *šer'ānu* (Sumerian SA) is often translated as “sinew, tendon, vein, muscle,” and in medicine it could denote most cordlike parts of mammal anatomy. In a larger context, the word formed part of the name for the diagnostic-prognostic handbook (SA.GIG, literally “Sick strings”), and it has even been suggested that ancient physicians recorded the pulse when examining these parts of the body.

This presentation will focus on a number of largely unedited ritual treatments against especially the disease *sagallu* (SA.GAL). By discussing my on-going work on the relevant cures, I will assess what information regarding ancient disease conceptualisation and physiological beliefs can be extracted from such texts, and I will incorporate my results into on-going debates regarding *sagallu* and similar diseases as well as the term *šer'ānu*.

Claire Bubb – Galen and Greco-Roman Theories of Digestion

ISAW, New York University

Diet was a cornerstone of Greek medicine, used both to prevent and cure illness, and theories of digestion underpinned dietetic advice from the Hippocratic period onwards. Galen, working in the second century CE, inherited this extensive theoretical and empirical dossier and developed his own understanding of the digestive process, the resulting formation of blood and other humors, and the concomitant best practices in dietetics. This paper will lay out the Galenic approach and explore its relationship to earlier ideas and to contemporaneous theories and practices.

Ida Adsbøl Christensen – “It is The Exaltation of Jupiter”: Scientific Classifications and Theoretical Content in Demotic Astrological Manuals from the Tebtunis Temple Library

ISAW, New York University

Many manuals on personal astrology from the Tebtunis temple library appear to have consisted of multiple sections of varying content and purpose. Besides chapters presenting the predictions of the future of individuals born under particular astrological influences, several manuals also

contained sections of a purely theoretical nature. Such passages reveal new insights into the ancient understanding and classification of astrological phenomena and provide an avenue for discussing cross-cultural exchange of astral knowledge in antiquity. This paper will present examples of the astrological theory identified in unpublished manuscripts from the temple library including P. Carlsberg 71 and P. Carlsberg 104.

Elaine van Dalen – The Arabic Hippocrates: Classical Islamic Reconstructions of the Aphorisms

Columbia University

This paper will focus on the effort of classical Islamic physicians (9th–13th century) to reconstruct and establish the text of one of the most influential medical texts at the time, the Hippocratic Aphorisms. Featuring centrally in medical education and research, the Aphorisms were translated into Arabic twice and transmitted in numerous copies. These resulted in a plethora of different versions: the Arabic Aphorisms were not standardized, neither as a collection as a whole, nor in terms of the readings of the individual verses. Physicians engaging with this collection therefore took it upon themselves not only to interpret and explain the Hippocratic meaning, but also to recover the Hippocratic text itself. To be able to engage in medical theorizing, they had to be philologists, too. In their commentaries on the Aphorisms, physicians combined medical and philological skills to establish the Hippocratic source text, and in this process of restoration often produced a new Hippocratic text reflecting contemporary perceptions of the authentic Hippocrates. This paper will highlight the dialectic between understandings of the ancient text and contemporary medical insights, while demonstrating the sophisticated philological methods of the Islamic physicians.

Anne Grons – Coptic Pharmacological Prescriptions: Ways of Organizing and Structuring Knowledge in Collections of Prescriptions

Philipps-Universität Marburg

The corpus of Coptic pharmacological prescriptions offers a multitude of information about the treatment of very different medical complaints. These are treated on the basis of plant, mineral and animal substances – alone or in combination –, for example, in the form of potions, ointments, powders or plasters. All this information is usually organized within an individual prescription in a rather fixed structure, with the medical indication (often in combination with the dosage form to be prepared) mentioned first, followed by the various ingredients and their processing, and finally completed by the application and sometimes a specification of certain effects or the general effectiveness of a remedy. Far more exciting, but also more difficult to answer, however, is the question of how these individual prescriptions are organized and structured within larger collections or medical compendia. And also, whether and how such ways of organizing knowledge can differ in the attested types of Coptic pharmacological texts.

During her PhD project, Anne Grons has dealt with these questions, amongst others, and in her contribution, she will present first results on the different forms of knowledge organization in the Coptic pharmacological texts and introduce ways of answering such questions.

Ann E. Hanson – Prescription to Prediction: A Plethora of Greek Doctors

Yale University

The doctors of Greco-Roman Antiquity appear before us in aggregates and as individuals, informing us about themselves, their medicine, their clientele. One aggregate is represented by more than 500 inscriptions published in *Les médecins dans le monde grec* in 2003 by Évelyne Samama. Most *ιατροί* ‘come from away’ — that is, a young man leaves his natal village somewhere in the Greek-speaking eastern Mediterranean; he learns medicine as an apprentice and ends up practicing far from his homeland, with his life-story summarized by the funereal epitaph that marks his grave. The physician who comes from away is initially a stranger in whatever place he chooses to settle. His gravestone nonetheless suggests he bonds with the new community, and at death is cared for and his body buried by the townsfolk in whose midst he practiced. The Elder Pliny seems to some to provide an example of a doctor who comes from away, Archagathus of Sparta, but fails to make a place for himself in the new community. Archagathus is invited by the Senate to doctor at Rome about 219 BCE, welcomed at first, granted citizenship and a place in town in which to practice medicine. He was eventually hated for his medical habit of ‘cutting and burning’ (*secandi urendique*). Romans called him ‘butcher’ (*carnifex*, Pliny 29.6.12–13). I shall argue that Pliny’s version of Archagathus at Rome omits pertinent evidence to the contrary. Another aggregate of Greek doctors consists of the *ιατροί* named in Greek papyri from Ptolemaic and Roman Egypt. These were initially gathered by Karl Sudhoff in 1909, with 24 named physicians. The update by Hermann Harrauer in 1987 (*Corpus Papyrorum Raineri* XIII, pp. 89–100), yields 154 named *ιατροί*, to which I add at least 19 others, from papyri published in the years since. Of particular interest are the public physicians, *δημόσιοι ιατροί*. Their practice of forensic medicine in the province of Egypt has been attested up to now no earlier than the final decade of the first century CE. That is when public doctors in the district capitals of the province begin to submit sworn declarations to Roman officials about the extent of injuries sustained by individual citizens and damages to their family members and property in advance of a trial before a magistrate. Glimpses of forensic medicine practiced elsewhere in the Roman Empire seem to happen a century or more earlier.

Friedhelm Hoffmann – P. Vienna D 6257 and Some Insights into the History of Scholarly Textual Transmission in Antiquity

Ludwig-Maximilians-Universität München

This paper will discuss P. Vienna D 6257 and the history of textual transmission (including the inclusion of Mesopotamian / Persian and Greek material). I would like to show that the recipe is the most important unit as far as international contacts of medical knowledge are concerned.

Amber Jacob – Cross-Cultural Encounters in the Greco-Egyptian Transmission of Medical Knowledge: A Case Study from Tebtunis

ISAW, New York University

This paper will explore the question of the interconnectedness of the Greek and (Demotic) Egyptian medical papyri from Tebtunis (1st–2nd c. CE). The Demotic texts from the site, housed largely in the Papyrus Carlsberg Collection, are entirely unpublished, though the Greek texts have been

better served in scholarship. The Demotic material consist of approximately 300 fragments belonging to at least six manuscripts that form part of a longer medical anthology (to be published under the siglum P.Tebt.Med.dem). The joint assemblage is unique in that it constitutes the only extant collection of Greek and Egyptian medical texts from a shared archaeological and social context. Hence, it represents and unprecedented opportunity for a case study into the intercultural exchange of medical knowledge in antiquity. Editors of the Greek texts have already begun to point to a nuanced interaction of the two medical systems, including Greek texts adapted to suit the Egyptian environment, and the penetration of Egyptian ingredients into the Greek pharmacopoeia. This paper will explore further connections from the Demotic texts themselves and will focus on the pharmacological recipes as the most likely avenue of interaction.

Alexander Jones – Greco-Egyptian Almanacs and the Astronomy Underlying Them

Institute for the Study of the Ancient World, NYU

Almanacs, the most common format of Demotic and Greek astronomical table in papyri and other archaeologically recovered media, give computed positions of the planets at astronomically significant dates or at uniform time intervals. This paper addresses the problem of determining how they were computed in the light of our present knowledge of the resources, largely originating in Babylonian and Greek mathematical astronomy, that circulated in late Hellenistic and Roman Egypt.

Kassandra Miller – Immediately, Immediately, Quickly, Quickly! The Need for Speed in the Medical Marketplaces of the Roman Period

Colby College

This paper will explore how, under the Roman Empire, when sundials and water clocks had become widely available and astrological time-reckoning systems had become wildly popular, many healers grew increasingly interested in the role of time within medicine and began to appeal to temporal concepts like speed within their competitive discourse. By comparing the rhetoric around speedy healing in Galen's *On the Method of Medicine*, Aelius Aristides' *Sacred Tales*, and selected healing rituals from the Greco-Egyptian "Magical" Papyri, this paper will reveal not only an increased demand for rapid cures among Roman-period patients—a demand to which all brands of healer had to respond for competitive advantage—but also some emerging "disciplinary divides" between the ways that ritualist healers and physicalist *iatroi* of various schools advertised their speed of efficacy. Specifically, this paper will demonstrate how Galen, in *Meth. Med.*, tries to present himself as walking an ideal middle path between the instantaneous cures produced by divine intervention and the hackjobs done by his rival *iatroi*, the Methodists, whom he presents as simultaneously too hasty in their medical training and, because of the rigidity of their three-day regimen, too slow to respond to evolving patient needs.

Willis Monroe – Tabular Data and Knowledge Formation

University of British Columbia

This paper will look at the role that physical tables play in the creation of astral knowledge. Attention will be paid to cyclic functions and their reconfiguration into a two-dimensional layout. The paper will primarily address cuneiform material but will connect the overarching conclusions with related material from neighboring cultures.

Luigi Prada – The Evolution of Ancient Egyptian Oneiromancy from Ramses II to Trajan: Differences and Reasons of Change between Pharaonic and Graeco-Roman Dream Books

Uppsala University

The oldest dream book to survive from Ancient Egypt—and one of the most extensively preserved—is the hieratic pChester Beatty III (British Museum), dating to approximately 1,200 BC. Many of the hundreds of dream descriptions that it contains are comparable with those found in the vast number of demotic dream books extant from Ptolemaic and, primarily, Roman Egypt. Remarkably, many dreams having the same content are interpreted in the pharaonic and in the Graeco-Roman oneirocritica with different prognoses. Can this be explained with a general, transformative evolution of the whole science of Egyptian dream interpretation, over the one and a half millennia of its written tradition? Or are these differences rooted in social reasons, being due to the emergence of new, different types of social actors and, therefore, dreamers? The very style and internal taxonomy of dream books radically changes over the centuries, but the reason for such transformations is not always apparent. The present paper will tackle these and related problems in our understanding of the ancient Egyptian science of oneiromancy, using a wealth of newly identified, still unpublished papyrological material.

Joachim Quack – Some Unpublished Demotic Astrological Fragments

Universität Heidelberg

This lecture will first briefly present a small demotic fragment from the old Wilken collection and now housed in the papyrological collection of Heidelberg University. It is an additional piece of the well-known astrological manual pBerlin P 8345, and probably directly joining, providing small parts of a fifth column of the manuscript, and containing prognoses from the position of Mercury.

Furthermore, I intend to present the unpublished recto side of pCarlsberg 4. This clearly contains astrological prognoses concerning birth situations but does not seem based on simply questions of the position of planets in the mundane houses or the zodiac. I hope not only to give an impression of its content but also to gain feedback for coping with the challenges of its interpretation.

Sebastian Richter – A Coptic Archive of Medical and Alchemical Papyri, Supposedly from Nagʿ al-Mašāyḥ (Lepidotonpolis)

Freie Universität Berlin

Coptic scientific manuscripts are generally scarce, but there is a small dossier of (for the most part unpublished) Coptic alchemical manuscripts on whose edition I have been working for a long time (see most recently Richter 2017, 2021). Of this *Corpus Chymicum Copticum*, five manuscripts can be assigned to one single archive, which also contained two Coptic medical papyri, P.Louvre AF 12530 (ed. Richter 2014) and the large Coptic medical papyrus kept in the IFAO (ed. Émile

Chassinat in 1921). It is the latter which provides an anchor point for the identification of the archive's place of discovery, supposedly in the ruins of Nagʿ al-Mašāyḥ, the ancient site of Lepidotonpolis. Today this archive is scattered over collections at Cairo, Paris, Oxford, and an unknown place, and needs to be reconstructed from provenance information and features of the manuscripts. It is possible (but not at all certain) that even more manuscripts from the same archive were floating about in the Upper Egyptian antiquities market in the decades around 1900; if so, their whereabouts are entirely unknown.

In my paper, I will present arguments for the coherence of the archive, discuss the dating, and evaluate the context of the archive. The archive sheds light on a community of practicing physicians and alchemists, possibly a master and his students, who shared certain conventions of written Coptic as well as certain scientific terms and concepts, such as repertoires of *materia medica* and *chymica*.

Bibliography

Chassinat, Émile 2021, *Un papyrus médical copte*, MIFAO 32, Le Caire.

Richter, Tonio Sebastian 2014. "Neue koptische medizinische Rezepte", *Zeitschrift für Ägyptische Sprache und Altertumskunde* 141, 155–195.

Richter, Tonio Sebastian 2017. "A Scribe, His Bag of Tricks, What It Was For, and Where He Got It. Scribal Registers and Techniques in the Bodl.Mss.Copt.(P) a.2 & 3". In: Jenny Cromwell & Eitan Grossman (eds.): *Scribal Repertoires in Egypt from the New Kingdom to the Early Islamic Period*. Oxford Studies in Ancient Documents. Oxford: UP 296–313.

Richter, Tonio Sebastian 2019. "Alchemy, Late Antiquity", in: *The Encyclopedia of Ancient History*, wbeah30529

Richter, Tonio Sebastian 2021. "Koptische Alchemisten und ihre Rezeptsammlungen. Mit Anhängen zur «Maschine der Weisen», einem frühen solvens universale, und zu einem vermeintlichen alchemistischen Laboratorium bei Assiut." In: Peter Dils, Hans-W. Fischer-Elfert, Ingelore Hafemann, Tonio Sebastian Richter (eds.), *Wissenschaft und Wissenschaftler im Alten Ägypten. Gedenkschrift für Walter Friedrich Reineke*. Beihefte zur ZÄS 9, 203–240.

Francesca Rochberg – Hellenistic Astrology and Astronomy in the History of Ideas

University of California, Berkeley

In the Hellenistic astral sciences both qualitative and quantitative ideas trace a genetic descent from the cuneiform world to far corners of the Hellenistic *oikoumene* and persist many centuries from their Babylonian origins. As its focal example, this paper discusses the transformation of Babylonian ideas concerning the length of the daytime in the Hellenistic astral sciences. For understanding both the movement and the stability of certain Babylonian ideas, some methodological approaches drawn from historians of ideas and intellectual historians may hold potential for the question of the transmission of Babylonian ideas to Hellenistic astronomy and astrology as well as more general considerations for the historiography of the ancient astral sciences.

Matthew Rutz – "It is the bound tablet-basket of the gods": Legibility in Mesopotamian Dream Divination

Brown University

Dreams occupied an unusual place in the divinatory lore of ancient Mesopotamia, at once the conduits for divine communication that were available to all and the objects of interpretive control by various specialists, including diviners, ritual experts, and specialized dream interpreters. Focusing on 7th-century Assyria and 6th–4th-century Babylonia, this presentation will survey cuneiform sources that deploy dreams and dream narratives in two distinct ways. On the one hand, the literary topos of divine revelation represents dreams as legible with minimal or self-evident exposition, particularly in literary/mythological texts and royal inscriptions. On the other hand, various technical scholarly works monopolize legibility, trafficking in dreams' unsettling and uncanny elements and taking them as signs in medical symptomologies, apotropaic rituals, and divinatory compilations. This presentation will explore the lexicon of dream interpretation in ancient Mesopotamia, examine the roles of its practitioners and putative divine participants, and discuss the associated textual genres with an emphasis on articulating the relationship of the dream divination series to other divinatory compositions.

Kim Ryholt – Demotic Astrological Literature: A Survey

University of Copenhagen

This paper will give an overview of unpublished Demotic astrological manuals, with a focus on material from Tebtunis (housed largely in the Papyrus Carlsberg Collection), and the work that is currently being done towards their publication. An overview of the contents and categories of Demotic astrological literature will be given.

Francesca Schironi – Using Babylonian Astronomy to Improve Greek Astronomy: Hipparchus' *Exegesis of the Phaenomena of Aratus and Eudoxus*

University of Michigan

Hipparchus is the most important Hellenistic astronomer, who, among other things, discovered the precession of the equinoxes. Through the many titles preserved we have a glimpse of the other important topics he touched upon, ranging from calendrical matters, to simultaneous risings and settings, to geography. However, almost all of his works have been lost. This is due in part to the success of Ptolemy, whose summa *Mathematike Syntaxis* or *Almagest* supplanted all the previous treatises on mathematical astronomy. Consequently, only more basic treatises that were considered preliminary readings for studying the *Almagest* have come down to us. For Hipparchus, only his *Exegesis to Eudoxus' and Aratus' Phaenomena* has survived – a 'polemical' commentary in which Hipparchus sets out a detailed critique of Eudoxus' *Phaenomena* and above all of Aratus' *Phaenomena*. The latter, composed in ca 270 BCE, was a didactic poem describing constellations, simultaneous risings and settings, and weather signs. It became a bestseller in antiquity as proven by its several translations into Latin (by Cicero, Varro Atacinus, Germanicus, Avienus and the so-called Aratus Latinus) and by its vast exegetical corpus (second only to the one on Homer). In my paper I will give an overview of Hipparchus' criticism of Aratus as well as Hipparchus' own catalogue of simultaneous risings and settings (which constitutes the second part of the his *Exegesis*). In particular, in line with the interdisciplinary focus of the conference, I will show how Hipparchus utilizes innovations of Babylonian astronomy (e.g., zodiac signs and degrees) with two goals: first,

to criticize Aratus and second, to further develop Greek astronomy by adding important new concepts and tools.

Sofie Schiødt – Solar and Lunar Dependent Recipes in Ancient Egypt

University of Copenhagen

The most recent addition to the corpus of medical texts surviving from ancient Egypt is Papyrus Louvre-Carlsberg, a manuscript dating to the early New Kingdom (c. 1450 BCE). It contains a wealth of new information on ancient Egyptian medical practice, including a group of recipes that are to be prepared and administered according to certain phases of the moon and positions of the sun. Such a practice is not otherwise recorded in the pharaonic medical corpus, and the only other evidence for lunar and solar dependent medico-magical recipes in Egypt come from the 3rd century CE. In this talk, I will present the recipes and discuss their content, practicality, symbolism, and potential non-Egyptian origin.

Calloway Scott – Back to the Future: Hereditary Seer-craft in Ancient Greece

University of Cincinnati

The seer, or mantis, was an indispensable figure for individuals and the polis alike in ancient Greece. Yet, as with many cultures in which divination is an accepted fact of life, knowing who possesses true prophetic knowledge is a challenging task. This paper examines the way Greeks sought to create formal kinds of credibility for seers by conceiving it as a hereditary skill handed down from generation to generation within specific and well-known families. It forms one angle of the next book project, which takes up the cultural history of “heredity” in classical Greece, from biological trait inheritance to bloodguilt and citizen rights.

Francesca Schironi – Using Babylonian Astronomy to Improve Greek Astronomy: Hipparchus' *Exegesis of the Phaenomena of Aratus and Eudoxus*

University of Michigan

Hipparchus is the most important Hellenistic astronomer, who, among other things, discovered the precession of the equinoxes. Through the many titles preserved we have a glimpse of the other important topics he touched upon, ranging from calendrical matters, to simultaneous risings and settings, to geography. However, almost all of his works have been lost. This is due in part to the success of Ptolemy, whose summa *Mathematike Syntaxis* or *Almagest* supplanted all the previous treatises on mathematical astronomy. Consequently, only more basic treatises that were considered preliminary readings for studying the *Almagest* have come down to us. For Hipparchus, only his *Exegesis to Eudoxus' and Aratus' Phaenomena* has survived – a ‘polemical’ commentary in which Hipparchus sets out a detailed critique of Eudoxus’ *Phaenomena* and above all of Aratus’ *Phaenomena*. The latter, composed in ca 270 BCE, was a didactic poem describing constellations, simultaneous risings and settings, and weather signs. It became a bestseller in antiquity as proven by its several translations into Latin (by Cicero, Varro Atacinus, Germanicus, Avienus and the so-called Aratus Latinus) and by its vast exegetical corpus (second only to the one on Homer). In my

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John Steele – A New Cuneiform Eclipse Text

Brown University

This paper will present a newly identified cuneiform text concerning eclipses. The text provides new insights into Mesopotamian methods of predicting eclipses. In this talk, I will present the text, analyse its contents, and discuss its significance for our understanding of Mesopotamian astronomy.

Ulrike Steinert – Cross-Cultural Transmission of Medical Knowledge in the Ancient Near East and the Mediterranean: Glimpses from Mesopotamian Women's Health Care Texts

Johannes Gutenberg-Universität Mainz

Medicine is an area of science and technology in which transfer of knowledge between different regions and cultures in the Ancient Near East and Mediterranean may have happened from very early on, especially through the long-distance exchange and trade of medical substances as well as through the mobility of healing specialists. But cross-cultural transmission of medical knowledge has also been observed on the level of medical technologies, texts, and concepts. Mesopotamian medicine and healing traditions offer an interesting case in question. While one finds several examples for the selective transfer of Mesopotamian healing traditions to neighboring regions (including the Levant, Hittite Anatolia, and Egypt) in the second and first millennia BCE, the reverse direction of transmission is much rarer, at least for these periods.

The talk discusses this remarkable imbalance in the exchange of medical knowledge and provides examples for processes of borrowing between Mesopotamia and neighboring regions in the area of women's health care and other areas of medical lore. Evidence for such transmissions is bound to grow as our knowledge and understanding of the preserved sources advances and as cross-disciplinary cooperation between specialists studying ancient medicine intensifies.

Lingxin Zhang – “Gender Trouble” in Ancient Egyptian Divinatory Texts

Yale University

Ancient Egyptian divinatory texts, such as those of astrology, dream prediction, and terrestrial omnia, offer us glimpses into how ancient Egyptians rationalized their world. In the Demotic divinatory corpus, several treatises stand out because they are specifically dedicated to women.

How is “gender” constructed in these “women’s treatises”? Particularly, are these treatises gender neutral, gender specific, or gender reductive?

In this talk, I explore these questions by investigating three case studies in which a “gendered” divinatory method is attested. These case studies encompass decanal astrological manuals, dream texts, and terrestrial omnia (2nd century BCE–2nd century CE). My presentation examines the frames of these treatises and their predictions respectively. The results suggest that the construction of “gender” in these “women’s treatises” is highly nuanced.