

Abstracts: Workshop I 17-18 April 2018

John Steele

Brown University, Department of Egyptology and Assyriology, Providence

The Babylonian zodiac in image and text: choices, significance and societal meaning.

The development of the concept of the zodiac as an abstract division of the path through which the sun, moon and planets move into twelve equal-length parts in Babylonia during the late fifth century BC had considerable significance for astronomy and astrology. The zodiac provided a simple framework within which the position and motion of heavenly bodies could be calculated much more readily than using irregularly distributed reference stars or constellations, and also opened up new possibilities for astrological associations between calendar dates, positions in sky, and things on Earth. The process of the development of the concept of the zodiac is fairly well understood. What is less well studied are the ways in which the signs of the zodiac were assigned names drawn from constellations situated within the signs. In this presentation I use both textual and iconographic evidence to investigate the processes by which the zodiac signs acquired names, how those names and the associated images of the signs varied over time and place, and how (and if) they became standardized. Secondly, I investigate the significance of the various choices made both in terms of their place within contemporary Babylonian scholarship in the astral sciences and their role in Babylonian society. Particular attention will be given to two signs: our Aries, which was identified by the Babylonians both with a human figure ("The Hired Man," HUN) and a sheep (LU/UDU), and our Taurus, identified both with the Pleiades ("The Stars," MÚL.MÚL) and the figure of a bull ("The Bull of Heaven," GU₄.AN.NA).

Marvin Schreiber

TOPOI, HUB, Berlin

Representations of celestial bodies in Mesopotamian magic, medicine, and rituals.

The paper aims to present the different ways in which the sun, the moon, the planets, certain stars, and constellations were represented in magical rituals and practices, as well as in healing rituals by metal objects, stones and gems, objects and materials of different colour, and drawings.

Stefanie Rudolph

FU Berlin

In the search of a Syriac sky

In a time when maps of the night sky were being produced in neighbouring cultures (e.g. early Umayyad: Quṣayr 'Amra; mosaics of synagogues) there is hardly any trace of such a map in the Syriac speaking world. Although an instruction for the production of an astrolabe is transmitted in Syriac, there are no manuscripts dating before the 10th cent. depicting the night sky. This paper does not only discuss the remarkable absence of these images but will also introduce the (scientific) disciplines of the Syriac speaking world in which depictions of the night sky must have been used. Evidence that the scholars of these disciplines had depictions of the night sky can be found in the scholarly texts they produced, as well as in episodes from narratives, literary texts, and polemic writings.

Daniel Morgan
CNRS, Paris

On Iconographic and Diagrammatic Irregularities in the Representation of Constellations in Han (206 BCE–220 CE) Tomb Art

The Chinese looked at the same sky as did the other peoples of Eurasia, and, for the most part, they saw different patterns suggestive of different things. That alone is probably not surprising to scholars of the Mediterranean, Mesopotamian, Indian, and Arab worlds; what is most surprising is perhaps the sheer number of things they saw. Where Ptolemy's (c.90–c.168 CE) star catalogue lists 1,022 stars in 48 constellations, Chen Zhuo's 陳卓 (fl. 280–309 CE) lists 1,464 in 283 *guan* 官 (lit. "offices"), many *guan* consisting of but a single star or but two or three on a single line. As such, not only is the Chinese sky considerably more crowded than any other, the forms with which it is crowded are at once less distinct from one another and less visually evocative of what they represent. One would think that this would get confusing, particularly at the popular level, and one would be absolutely right. In this talk, we will examine a number of gross inconsistencies in the representation of *guan* "constellations" in Han dynasty (206 BCE–220 CE) tombs, particularly the murals excavated at Xi'an Jiaotong University in 1987 and Qushuhao 渠樹壕 in 2015 – inconsistencies from one tomb to another and inconsistencies between the work of tomb artisans and the professional astronomical literature of the time. The interest in doing this is not to establish *that* tomb art falls short of "scientific" standards, it is rather to identify what elements of iconography and diagrammatic representation are stable, which are not, what gets confused, and why. The sky was there for everyone to see at night, and, at the end of the day, artisans would seem to know exactly *what* was there, if not exactly in what order it came, of how many stars it was composed, or of what shape it actually took in the sky.

Ilaria Bultrighini
University of London

Heavenly time: the visualisation of the planets and the astrological planetary week in the Greco-Roman world and the ancient Near East

This paper looks at how the planets were visualized and depicted in the ancient Mediterranean, with a focus on the connection between these representations and the use of the planetary seven-day week as a means of measuring time during the Roman imperial period. In the planetary week, each day was named after one of the seven planets or non-fixed heavenly bodies of the universe as it was known in antiquity: Saturn (Saturday), Sun (Sunday), Moon (Monday), Mars (Tuesday), Mercury (Wednesday), Jupiter (Thursday), and Venus (Friday). In turn, the planets were named after Greco-Roman gods and goddesses, following a near eastern tradition that identified the planets with specific divinities. In the Roman West, where the planetary week became increasingly widespread from the late first century BCE, the planets were habitually represented in the form of their associated deities, frequently as portrait busts. These anthropomorphic depictions often display the seven planets in week order –starting with Saturn (Saturday) and ending with Venus (Friday)– thus demonstrating the growing popularity of the planetary week in this area of the Roman Empire. By comparing images of the planets from the western and the eastern Mediterranean, this paper illustrates shared characteristics and dissimilarities between iconographic traditions in different parts of the ancient Mediterranean and discusses the role of the planetary week in promoting the spread of visual representations of the planets.

Antonio Panaino
University of Bologna at Ravenna

The structure of the superimposed Heavens in the Mazdean system and its rationale

The present contribution investigates the cosmological model attested in Pre-Islamic Iranian sources, which present a simple scheme with the heaven opposed to the earth or a more elaborated structure with three superimposed heavens. The lowest heaven was very peculiarly attributed to the stars, that of the Moon was placed in the middle level, while that of the Sun was the third one, i.e. the level closest to the abode of Ahura Mazdā. This model finds a strong resonance, probably fruit of a relative influence, in some traditions attested in the Greek fragments belonging to the Pre-Socratic philosophers, where the heaven of the stars was the lowest, although its origin seems to be earlier. In fact, a group of Akkadian tablets of the beginning of the first millennium BCE refers to three different heavens, each one made of a different precious stone. According to this pattern the lowest level was already attributed the stars. It is probable that this model played a certain influence also on the Iranian peoples, but such a cosmic order was reasonably incorporated in the Mazdean tradition on the assumption that the souls ascending to the Paradise of Ahura Mazdā (located on a fourth and higher level), should pass through different progressive steps, each one distinguished thanks to its increasing brightness. In later times, other patterns were developed, with reference also to the planets, although the traditional idea that the stars should stay below the heaven of the Moon was formally maintained, in spite of the fact that the ancient Iranian astronomers surely knew the truth.

Florentina Badalanova Geller
TOPOI Excellence Cluster, FU Berlin

Apocalyptic imagery and the visualisation of heavens

Analyzed in this paper will be verbal descriptions of cosmographic templates which have been attested in some Judaeo-Christian apocalyptic parabiblical writings (such as The Apocalypse of Baruch, the Slavonic Apocalypse of Enoch, etc.) and the ways in which these are rendered in religious art and iconography (illuminated manuscripts and frescoes). Of particular interest will be portrayals of the Sun and Moon, along with zoomorphic and anthropomorphic imagery used in depictions of signs of the Zodiac. Likewise analyzed will be some peculiar patterns of the sequence of Zodiacal signs, as found in some florilegia composed in the Byzantine Commonwealth, with special emphasis on the Symeonian Florilegium.

Alexandra von Lieven
FU Berlin

The Ancient Egyptian *Classical Sky Picture*

Abstract

Positively attested from the mid-19th century BCE up to the 2nd century CE, a certain standard depiction of the southern and northern skies can be called the *Classical Sky Picture* of Ancient Egypt. It contains a series of elements of major importance within *Religious Astronomy* – Sothis, Orion, the Big Dipper, the decans, etc. The rich attestation of the composition gives the opportunity to pinpoint several distinct strands of tradition, which can be distinguished by slight, but significant variants. These allow to reconstruct different spheres of use for the Classical Sky Picture, which over time spawned their individual traditions. The paper will look at them from the point of view of a knowledge history.

Satomi Hiyama-Karino

SPD Research Fellow, Japan Society for the Promotion of Science /Ryukoku University

Indian astral deities in the mural paintings of Dunhuang Cave 285

A large amount of art-historical studies has been undertaken for the mural paintings of Dunhuang Cave 285, which takes a unique position in Dunhuang Studies through 1) the presence of the earliest datable inscription in the area (538 / 539, Western Wei Period), and 2) their unique iconographical content. Especially remarkable is the murals on the western wall; the central cult niche with the sitting Buddha figure is surrounded by the depiction of various deities with clearly Indian origin. The uppermost section of this wall has a blue-based strip, in which several deities are depicted along with Sūrya and Chandra. While these deities conflated by Sūrya and Chandra have been mostly associated with Taoist astral cult in previous studies, they seem to be better identified by Indian / Buddhist astrological textual sources which were popular in India and Central Asia at that time. This paper will investigate the historical and cultural background of the transmission of these Indian astral images to the Dunhuang area in the early 6th century.

Abstracts: Workshop II 19-20 April 2018

Nicolas Weill-Parot
EPHE, Paris

Producing a Star? The Scientific Thought and the Process of Imitation of the Planets and Constellations in Astral Magic (12th-15th century).

Astrological talismans, especially “astrological images” (figures deriving their power only from the natural power of the planets or constellations), are based on an imitation of the stars. This is obvious in the talismans whose shape or figure is supposed to represent the celestial body. Nevertheless, a deeper process of imitation is at work: an ontological affinity between the artefact and the planets or constellation which gives its power. The paper would aim at shedding new light on this much more fundamental way to “represent” the celestial entity, which is shown through the magical, philosophical, theological, scientific discourses.

Tamar Abuladze
The Korneli Kekelidze Georgian National Centre of Manuscripts, Tbilisi

Astrological and astronomical Manuscripts in Georgia

Celestial bodies, their strictly repeated visible appearance and movement on the sky has been attracting the man’s attention since time immemorial. Accumulation of observing data in a great amount, formation of writing, invention of means (leather, parchment, and paper) carrying information caused appearance of a new substrate – astronomical manuscript. This manuscript material involves vast textual description, numerous tables and detailed pictures. They expressed progress of astronomical knowledge, new discoveries and theories, contained information on the instruments of their periods. Numerous astrological manuscripts that have reached us and preserved in world scientific centers, libraries and archives present to us the systems of universe structure, theories on movement of celestial bodies, catalogues of stars, calendars, descriptions of astronomical instruments.

Astronomy and mathematics have long been developing in Georgia as well. The Georgian manuscripts, involving astronomical-astrological information, have reached us in the form of books, volumes, documents and fragments. This written, relisted and compiled material of astronomical and astrological content, both original and translated, represents extensive texts, tables, complexes of pictures, which are written in Asomtavruli, Nuskhuri and Mkhedruli scripts.

We should especially separate manuscripts involving original Georgian works. Study of Georgian astronomical material has its history. Hundreds of Georgian astronomical manuscripts are unknown even today and unstudied from the viewpoints of history of science. These manuscripts (astronomical, cosmological, and chronological) may contain unique data, facts, fundamental works; Georgian astronomical manuscripts often are of mixed type and involve some mixture of astronomy and astrology. Majority of them are not deciphered and elaborated from the viewpoint of the comparative astronomy.

In the NCM, more than 50 Arabic and Persian astronomical manuscripts are preserved (16th-19th cc.) which involve the works of medieval classics.

Gábor Kósa
ELTE University, Budapest

THE REPRESENTATION OF FIRMAMENTS IN THE CHINESE MANICHAEAN “COSMOLOGY PAINTING”

The Cosmology painting (colors on silk, 137.1 x 56.6 cm, Jap. *uchū zu* 宇宙図; abbreviated as CP) is one of the eleven newly identified Manichaean paintings originating from China and – with one exception – preserved in various Japanese collections. All these paintings have been identified and published between 2008 and 2016, and they are unique since nothing comparable survived from Manichaean art. Aside from some fragmented visual remains from the Uighur Kingdom, only these Chinese paintings testify to the once flourishing Manichaean art; thus, the importance of these newly found paintings can hardly be overestimated. Out of five of these paintings, kept in one of the numerous Japanese private collections, one is the CP, two are Realm of Light fragments, and two paintings represent on Manichaean missionary history.

The unquestionably most important and most complex CP, dated to the 14th–15th centuries, can be divided into four major sections: 1. The uppermost section visualizes two Manichaean paradisiacal scenes, as well as the Sun and the Moon; 2. The next section below it depicts the ten firmaments with figures of various functions; 3. The third section gives a visual representation of the sphere between the firmaments and the earth, including “a world of snakes,” the Virgin of Light, a Judgment scene, and Mount Sumeru with four continents; 4. The lowermost section depicts the eight earths with three individual scenes on the fifth earth with important mythological figures.

In my talk I offer a detailed analysis of this unique representation of the Manichaean firmaments, as well as explore and compare the related notions preserved in the Manichaean textual tradition. Furthermore, I also discuss the possible Indian and Central Asian antecedents of the relevant Chinese Manichaean notions and visual motifs.

Shi Yunli
Department of the History of Science and Scientific Archaeology
University of Science and Technology of China

Charting the Chinese Sky with European Observations: Jesuit Star Maps from the Late Ming Dynasty Revisited

When the Jesuits began to introduce European knowledge on the fixed stars to China in the late Ming dynasty, they were facing a long and well established starry sky different from the European one but charged with so heavy ideological meanings which incurred difficulties for their introductions. On one hand they hoped to show the superiority of European astronomy through more stars catalogued and charted by European astronomers; on the other hand, however, they had to keep the sky still looking Chinese. This paper will present the study on this issue by the members of our research group on old astronomical images in East Asia, which will show what kind of reconciliation and reconstruction was made by the Jesuit astronomers and their Chinese cooperators, and how their works were translated into images in astronomical charts.

Micki McCoy
History of Art, University of California, Berkeley
Postdoctoral Fellow, Max Planck Institute for the History of Science, Berlin

The Hellenistic Zodiac on the Eastern Silk Road: Sources and Semiotics

This paper takes a comparative approach to the history of the twelve signs of the Hellenistic zodiac in China and Inner Asia from roughly the eleventh to fourteenth centuries. Intrinsic to such a topic is a

text-image divide: whereas knowledge of the ecliptic zodiac had been introduced into East and Inner Asia centuries earlier through the medium of text, the period in question witnesses the first widespread circulation of their pictorial forms. The central problem I address is why the zodiac signs retained such a high degree of symbolic, ritual, and divinatory potency in China and Inner Asia even after they had become decoupled from their original role as markers of celestial topography or symbolic extensions of visible constellations. Were they simply adapted or assimilated to a preexisting vocabulary of auspicious signs? To what extent did they inform a new kind of spatial or organizational logic? Examining the visual culture of the zodiac across Eurasia, including the medieval Islamic and Christian realms, I take up the question of transmission not only from the perspective of iconography and naming, but also the spatial and design logic informing their overall configuration.

Marek Vinklát
Karls-Universität, Prag

Triple Function of Mandaic Illustrations

One of the most striking elements of many Mandaic manuscripts are uniquely drawn black and white illustrations representing in most cases heavenly beings and upper realms. These ancient pieces of art have several functions for their creators and viewers. The main focus of our presentation is to introduce and explain these functions within the framework of Mandaean religious tradition. Special attention will be given to manuscripts visualizing the World of Light such as *Alma Rišaia Rba* and *Diwan Abatur*. Our endeavour will be accompanied by images of the most interesting illustrations and translations from Mandaic language.

Gerd J. R. Mevissen
Berlin

Can the Tropic of Cancer be regarded as indicative of the occurrence of representations of astral deities or symbols on certain images in Indian art?

Back in 2003, I had surveyed and collected 35 images depicting the ascetic aspect of the Hindu Goddess Pārvatī (tapasvinī Pārvatī) with subsidiary figures of planetary deities (grahas) or with astral symbols (1. Pārvatī + graha figures (8 items); 2. Pārvatī + Sūrya figure (2 items); 3. Pārvatī + sun disk and crescent moon (9 items); 4. Pārvatī + canopy of nine heads/dots (10 items); 5. Pārvatī + canopy of seven heads/dots (4 items); 6. Pārvatī holding a mālā of 27/28 beads above her head (2 items)). To my utter surprise I noticed that the bulk comes from a continuous line of regions stretching from Gujarat in the West across Rajasthan, Madhya and Uttar Pradesh to Bihar and Northern Bengal (Bangladesh) in the East, with only one image from Orissa and not a single one from the far North or South of India. Thus, all extant images of this type came from places or areas that are lined along the Tropic of Cancer (ca. 23° 30' N.Lat.) within a margin of less than 2 degrees.

Interestingly, it is only in this geographic area, i.e. within 5 degrees north and south of the Tropic of Cancer, that the sun (in the days around the summer solstice) and the full moon (around the winter solstice) stand vertically above any given place on the surface of the earth, an important fact with regard to the pañcāgni tapas ("5-Fire-Penance") of Pārvatī, who according to mythology continued her hard penance during day and night, standing in the open space between four burning fires, with the blazing sun (during daytime) and the moon and stars (during the nighttime) acting as the fifth fire.

Meanwhile I found some more images of this type. The present corpus consists of 54 images (1. Pārvatī + graha figures (13 items); 2. Pārvatī+ Sūrya figure (2 items); 3. Pārvatī + sun disk and crescent moon (14 items, incl. one from Java); 4. Pārvatī + canopy of nine heads/dots (14 items); 5. Pārvatī with a canopy of eight dots (1 item); 6. Pārvatī + canopy of seven heads/dots (5 items); 7. Pārvatī holding an akṣamālā of 12 beads (3 items); 8. Pārvatī holding a mālā of 27/28 beads above her head (2 items).

The paper will evaluate whether the above geographical distribution along the Tropic of Cancer applies also to the newly found images.

TV Venkateshvaran
Vigyan Prasar, New Delhi, India

Calendar aspects of Vijayanagara epigraphy in Tamil – a preliminary survey

Established in 1336 by Harihara I and his brother Bukka Raya I of Sangama Dynasty, the Vijayanagara Empire extended almost all of the Deccan Plateau region in South India, except parts of present day Kerala. The war with Deccan sultanates in 1565 dealt a death blow to the empire, although the kingdom survived until 1646. The empire was at its zenith during the period 1300–1750 CE. During this period irrigation infrastructure expanded to new regions resulting in increased agricultural productivity and circulation of commodities. There was an increased professionalization of occupations in revenue administration and an increased community centered consolidation of artisanal and craft production, especially in textiles, ceramics and metal work. The period was marked by the construction of expansive temples, demonstrating excellence in architecture.

Eclipses are celestial spectacle drawing instant attraction. However, to compute the occurrence of eclipses and other celestial events, precisely, when it is not visible from one's place, a sophisticated computation procedure is required. Significantly, this is also the time when improvements were taking place in astronomical computations. Vākyakaraṇa a manual used widely by the Tamil pañcāṅga (almanac) makers for computation of the pañcāṅga were composed during this era. The vākyas employed in Tamil region are drawn from the Vākyakaraṇa of anonymous authorship, attributed to Vararuci, which is dated to have been composed between 1282 and 1306 CE. Sundararaja's elaboration, Laghudipikā or Laghuprakāśika, a commentary on vākyakaraṇa of this algorithm, is dated around 1500 CE.

The study would study and collate information about various astronomical events like eclipses (solar and lunar), solstices (winter and summer) from these inscriptions and map them along with calendrical practices practiced during the Vijayanagara kingdom, as evidenced from the inscriptions surviving from that period. This preliminary study would lead to extensive data compilation analysis of Tamil inscriptions with particular attention towards the Vijayanagara period.

The preliminary survey examines the calendrical and astronomical information found in the 576 Tamil inscriptions of the pre-Krishnadevaraya period, from 1346-1509 CE, contained in the first of the two volumes of Tamil epigraphy compiled and published recently. These 576 inscriptions, from 29 rulers, are from 215 places spread mainly in present-day Tamilnadu but also include Kolar and Bangalore districts of Karnataka and Chittoor district of Andhra Pradesh.

Senthil Babu
Institut Français Pondichéri, India

Sculpting the Heavens: Measuring as Work

The work of sculptors inscribes visual representations in materials such as stone, wood and metal in south India. The visual forms of the heavens found in the temples of south India were made by these sculptors. They belong to a long-standing tradition, which continues till today in this region, which testify to forms of transmission among the practitioners in the domain of work. Measuring and working with proportions and symmetry are embedded in the work practices of these practitioners. The world of craft work is steeped in measuring and proportions, creating new material forms through constant acts of measuring and materially sculpting proportions. An interesting aspect to study about this practice is that though the work happens in the workshop without any written codes followed, at the site, certain foundational texts are repeatedly invoked as testimonies of continuous systems of practice. And there do exist certain manual like texts like the Mayamata in Sanskrit and the Cirpa Cennul in Tamil.

I will point to the chief characteristics of such texts to reflect on the relationship between texts and practices in craft work. By pointing to the centrality of measuring in these texts to the actual practice, we could also glimpse the social world of practitioners, circumscribed by the institution of caste, the norms of justification and virtuosity that they create as part of their caste and professional histories through a language of distinction and the imagining of a theory of sacred geometry. When the forms they made and continue to make, is made cultural and their substance becomes religious, their technique and work is conjured as one devoid of labour in the workshop. How do we understand the coming together of learning and working in the practitioner's workshop in relation to texts, legacies, tools, apprenticeship and the constantly changing market?

Ronit Yoelli
Goldsmiths College, London

Notes on the Tibetan Seven-Day Planet Week and its possible sources

Abstract:

This paper will focus on the Tibetan seven-day planet week, its visual representations, its applications in Tibetan medicine, and its possible sources. The paper will also attempt to provide some broader context of the cultural exchanges which might explain how the seven-day planet week arrived to Tibet.

Mark Geller
FU Berlin

Solomon, Ashmodai, and Demons swallowing the Moon.

The connection between demons and eclipses (lunar) can be found in a bilingual Sumerian-Akkadian Eclipse Myth, appended to a lengthy composition known as Utukku Lemnutu, or "Evil Demons," in which the Moon is forced into eclipse mode (Akk. attalû) by a gang of the demonic "Seven," the evil effects of which were suffered by the King, who is the subject of the incantation. This popular myth has resonance in the Babylonian Talmud, in an amusing but also instructive tale about encounters between King Solomon and Ashmodai, King of the demons.