The Cluster of Excellence
Understanding Written Artefacts
at the Centre for the Study of Manuscript Cultures (CSMC)
cordially invites you to the workshop

Genesis of Writing

Friday, 25 October 2024, 10:00 am – 7:00 pm CEST
Saturday, 26 October 2024, 10:00 am – 1:00 pm CEST

Warburgstraße 26, 20354 Hamburg

Organised by William G. Boltz (University of Washington),
Michael Friedrich (University of Hamburg),
and Piotr Michalowski (University of Michigan)

Registration:
https://www.csmc.uni-hamburg.de/en/register/workshop62

Glottographic writing is known to have originated independently of any pre-existing writing four times in antiquity, in Mesopotamia, Egypt, China, and Mesoamerica. For each of these areas scholars past and present, relying chiefly on archaeological finds, have explored the 'origins' of writing and have attempted to reconstruct the structure of early writing systems. Beyond this, considerable recent research has dealt with the 'prehistory' of writing, seeking to bridge the gap between a stage of non-writing marks and marking systems and that of writing, again relying on archaeological findings, but this time on earlier occurrences of signs suggestive of later writing. Finally, scholars of cognitive science and neuropsychology have contributed studies on the human brain, including among the most recent work Material Engagement Theory, drawing attention to the mediating role of material things in shaping the human mind. Such studies have clear implications for the study of the origin and early development of writing systems.

Against this backdrop, the workshop will centre attention on two aspects of the emergence of writing:

1) What is known or can be inferred or surmised about the origin and early development of writing in each of these four ancient societies and to what extent these patterns of development are comparable or parallel with one another.

2) Since writing did not arise in all human groups in antiquity, what were the features of the ones where it did, both contemporaneously and prehistorically, that might account for the emergence of glottographic writing and might explain the apparent parallel processes of the early development of writing in these four ancient civilizations?

Programme

Friday, 25 October 2024, 10:00 am – 7:00 pm

10:00 – 10:15   Welcome and Introduction

Chair: Cécile Michel (Centre national de la recherche scientifique, Paris)

10:15 – 11:15   **Mesopotamia**

Piotr Michalowski (University of Michigan)
Time, Kinetics, Semiotics and the Brain: Observations on the Earliest Notational Systems of Western Asia

11:15 – 1:00   **Egypt**

Andréas Stauder (École Pratique des Hautes-Études-PSL, Paris)
Why did Writing Initially Develop in Egypt? Trajectories to Writing

Richard Bussmann (University of Cologne)
Approaching the Genesis of Writing Bottom-up: Material Trajectories of the Early Egyptian Script

1:00 – 2:30   Lunch

Chair: Matthias Schemmel (University of Hamburg)

2:30 – 4:15   **China**

William G. Boltz (University of Washington)
The Peircean Semeiotic Trichotomy of 'Icon, Index & Symbol' as a Framework for the Emergence of Glottographic Writing

Ken Takashima (University of British Columbia)
What are wén 文 *'Simple Graph' and* zì 字 *'Complex Graph' in the Shang Script?*

4:15 – 4:30   Coffee

Chair: Gordon Whittaker (University of Göttingen)

4:30 – 7:00	**Mesoamerica**

Katarzyna Mikulska (University of Warsaw)
A Glyph or not a Glyph: The Question of Disjointedness of Signs in Mesoamerican Scripts

David F. Mora-Marín (University of North Carolina), online
Origins and Evolution of Mayan Writing: On the Nature of Logography and Logosyllabic Spellings

7:00   Dinner (for participants)

Saturday, 26 October 2024, 10:00 am – 1:00 pm

Chair: Ulrich Bismayer (University of Hamburg)

10:00 – 12:00	**Archaeology**

Ewa Dutkiewicz and Christian Bentz (Staatliche Museen zu Berlin – Preußischer Kulturbesitz)
Information Encoding in the Paleolithic

Karenleigh A. Overmann (University of Colorado)
A Cognitive Archaeological Perspective on Literacy and Numeracy

12:00 – 1:00   Lunch

1:00   Final discussion

Abstracts and Contributors

William G. Boltz (University of Washington)

The Peircean Semeiotic Trichotomy of 'Icon, Index & Symbol' as a Framework for the Emergence of Glottographic Writing

Friday, 25 October 2024, 2:30 pm – 4:15 pm

The nineteenth century American philosopher C. S. Peirce identified three kinds of signs according to function, 'icon', 'index' and 'symbol'. This became the fundamental trichotomy for his understanding of what he called *semeiotics*, borrowing this form of the Greek word from its use by John Locke in the seventeenth century. In the simplest sense an 'icon' denotes an object directly by a likeness or quality of its own; an 'index' denotes an object by a factual, non-arbitrary connection to its object; and a 'symbol' denotes an object by a habit or rule.

The scripts of glottographic writing systems of any kind consist exclusively of symbols, because the objects being denoted are sounds, for which neither iconic nor indexical signs are possible. The origin of such writing systems, by contrast, when not borrowed from already existing writing systems, appears to be explicable as a progression from the iconic and indexical uses of signs to the symbolic use of those signs when fully phoneticized. This seems to apply equally to each of the four known glottographic writing systems in antiquity that emerged independently of any other writing system, *viz.*, writing in Mesopotamia, in Egypt, in China and in Mesoamerica.

Understanding the nature and extent of the indexical use of graphic signs in the formative stage of Chinese writing provides a sound explanation, consistent with the general principles that account for the emergence of glottographic writing universally, for what are traditionally said to be syssemantic (*hui-yi* 會意) characters, *i.e.*, characters that appear to be constituted solely of semantic components, without any phonophoric component. The phoneticization of a graph **G** used indexically results in a pronunciation distinct from and typically unrelated to the pronunciation of the same graph **G** used iconically. The ambiguity arising from two different pronunciations (= two different words) associated with the single graph **G** is resolved typically by the addition of either a phonetic determinative (**pd**) or a semantic determinative (**sd**) to one of the two pronunciations, thus either **Gpd** or **Gsd**. This in turn inevitably camouflages the fact that the primary graphic constituent **G** in the graphs **Gpd** and **Gsd** was the true phonophoric. In the case of **Gpd**, it appears that the **pd** component is the actual phonophoric, not the secondary phonophoric, and the **Gpd** character looks like a typical "phonetic compound" (*xing-sheng* 形聲 or *xie-sheng* 諧聲) character. In the case of **Gsd**, by contrast, it would appear that neither the **G** nor the **sd** serves as a phonophoric constituent; not **G** because the **G** here has a reading different from the same **G** used without any determinative (usually iconically, but not necessarily) and not

sd because this was a *semantic*, not a phonetic, determinative. When not understood as the result of an indexical use of **G**, such **Gsd** characters were conventionally understood as having only semantic constituents, *i.e.*, as syssemantic (*hui-yi*) characters, a (mis-)perception that persists to the present day.

Richard Bussmann (University of Cologne)
Approaching the Genesis of Writing Bottom-up: Material Trajectories of the early Egyptian Script
Friday, 25 October 2024, 11:50 am – 1:00 pm

The political anthropologist James Scott has argued that leaders of centralized polities make societies legible by imposing simplified categories on complex social arrangements. The invention of writing could be described along these lines as a means of standardization and definition of core concepts for the distinction of an emergent ruling class and the development of new administrative practices under their control. In this paper, I discuss the development of the phonetic script in the late Fourth and early Third millennium BC in Egypt focusing on material trajectories and local contexts of writing practices. An attempt is made to reconcile top-down approaches to early writing, which prevail in the research literature, with bottom-up perspectives.

Ewa Dutkiewicz and Christian Bentz (Staatliche Museen zu Berlin—Preußischer Kulturbesitz)
Information Encoding in the Paleolithic
Saturday, 26 October 2024, 10:00 am – 12:00 pm

Geometric signs are common in mobile art and cave art of the Paleolithic. There are numerous hypotheses about their meaning and function. However, these are difficult to verify and often remain controversial. We propose here to take a step back and ask: What can we say about the basic statistical properties of Paleolithic signs compared to other sign systems, such as proto-cuneiform and modern writing systems? To investigate this question, we focus on a clearly defined corpus of mobile objects from cave sites on the Swabian Alb. Around 40,000 years ago during the Aurignacian period people in this region adorned numerous objects with geometric signs. This corpus is considered one of the oldest and richest inventories of symbolic artifacts.

We compare the sign sequences on these objects in terms of their "statistical fingerprint" with the earliest proto-cuneiform tablets of the Uruk period, as well as with a selection of modern writing systems. While the Paleolithic sequences are clearly distinguishable from modern writing systems, they surprisingly fall within the range of the earliest proto-cuneiform. At first glance, modern humans of the Swabian Aurignacian had already developed sign systems with

the information encoding potential of the earliest proto-cuneiform. However, while proto-cuneiform evolved into fully developed writing systems within approximately 500-1000 years, the sign systems of the Swabian Aurignacian remained stable in terms of their information encoding potential for at least 5000 years and then disappeared.

Piotr Michalowski (University of Michigan)

Time, Kinetics, Semiotics and the Brain: Observations on the Earliest Notational Systems of Western Asia

Friday, 25 October 2024, 10:15 am – 11:15 am

At the end of the fourth millennium and the beginning of the third in Western Asia there came into use several different recording and symbolic systems, including two that have been labeled as writing, "proto-cuneiform," likely originating in the megacity of Uruk in what is now southern Iraq, and the somewhat later "proto-Elamite" that likely spread from the city of Susa throughout a wide area of what is today Iran. Most of these used the resilient medium of clay and therefore have survived in good numbers, but the functions, social impact, internal structures, as well as the archeological contexts and time frames of many of these remain opaque at best. The inscribed clay tablets of both systems can be paraphrased but not translated, which is indicative of the semiotic ambiguities that still stand before us. We know next to nothing about the people who fashioned them, about their numbers, social standing, training, and functional importance in the socio-economic fabric of the times. In this presentation I shall provide an overview of the issues and data involved and propose ways of studying these matters in light of new archaeological discoveries and current interdisciplinary theoretical approaches.

Katarzyna Mikulska (University of Warsaw)

A Glyph or not a Glyph: The Question of Disjointedness of Signs in Mesoamerican Scripts

Friday, 25 October 2024, 4:30 pm – 7:00 pm

The signs in Mesoamerican scripts are commonly called glyphs, after the 16th-century introduction of the term hieroglyph to any non-deciphered, highly pictorial writing system. This term, however, is pretty problematic and not precise, not only because of its complicated history (Hamann 2008) but also because it hardly reflects the complex graphic structure of Mesoamerican scripts. While for Maya writing additional terms were proposed—among others such as "distinctive markings" of a glyph, to name a minimal graphic element that encodes semantic value—in the case of Central Mesoamerican scripts the graphic solutions to encode meaning are still being unearthed. The point is that the category of a single glyph (or whatever

would be the name of a singular graphic semantic unit) in the Aztec divinatory and Mixtec historical codices is frequently non-functional, as glottographic signs can be perfectly merged with what we perceive as an image, or a single, disjoined glyph can dissolve into a pattern or a color.

David F. Mora-Marín (University of North Carolina), online
Origins and Evolution of Mayan Writing: On the Nature of Logography and Logosyllabic Spellings
Friday, 25 October 2024, 4:30 pm – 7:00 pm

This paper examines the nature of Mayan graphemes, specifically those conventionally referred to as logograms. It proposes the notion of a lexogram, applicable to Mayan writing specifically, defined as a grapheme used to represent instantiations of a lexeme (set of lexical items based on a common root through different inflections and derivations), rather than a specific word (logogram) or morpheme (morphogram). In addition, employing a variationist approach emphasizing trends in spelling patterns through time, the paper examines the use of syllabograms in combination with lexograms, suggesting that the former always function as phonetic determinatives in the spellings of both nouns and verbs, obviating the need for the principles of commutativity, grammatical logograms, or morphosyllables that have been applied to attempt to account for the use of CV syllabograms to spell vowel-initial suffixes that make up the majority of nominal and verbal suffixes. Syllabograms did not function to spell grammatical affixes, specifically, but to point, usually in a minimalist fashion, to the particular form of lexeme that was called for in a given context as phonetic determinatives. The paper also explores the implications of the data and the present approach for the origin of Mayan writing, with the use of particular examples from the earliest Mayan inscriptions.

Karenleigh A. Overmann (University of Colorado)
The Amir Khan Gorji Musical Treatise: A Persian Manuscript on Iranian Music in the Safavid Court
Thursday, 30 May 2024, 11:30 am – 12:30 am

The material record of Ancient Near Eastern artifacts and writing is one of the longest and most extensive known in duration and scope. The record substantiates detailed chronological change in material forms that provide novel insights into the development of complex cultural systems like literacy and numeracy. For example, in literacy, change in written form can be related to change in psychological functioning (e.g. the fusiform gyrus becomes trained to recognize written objects through combinations of their local and global features, relaxing the need to maintain the depictiveness that characterized archaic signs). For numeracy, the sequence of

artifacts used for counting—fingers, tallies, tokens, and numerical notations—can be analyzed for their effects on numerical content, structure, and organization, improving the understanding of how complex mathematical systems are elaborated from the perceptual experience of quantity. Both avenues of inquiry have significant potential to inspire new interdisciplinary engagement between writing and number systems research, archaeology, and neuroscience.

Andréas Stauder (École Pratique des Hautes Études-PSL, Paris)
Why Did Writing Initially Develop in Egypt? Original Trajectories to Writing
Friday, 25 October 2024, 11:15 am – 1:00 pm

Recent analyses suggest that Egyptian writing developed out of an increasingly sophisticated and exclusionary visual culture strongly focused on power and violence, and initially in no small part as an additional exclusionary refinement within that visual culture. This early writing would soon – within two or so generations, but only secondarily – develop functions in perpetuating social relations after death and expand into a limited administration. In an apparent paradox, *glotto*-graphy would thus have developed initially as a refinement of a *visual* culture, not to communicate broadly, not to store information in its earliest stages, and in in places that were mostly withdrawn from broader social visibility.

This immediately contradicts retrospective narratives informed by Western rationalities and instrumentalist ideologies of writing. Moreover, when it comes to "origins," categories themselves appear to change: what we call "early writing" in ancient Egypt and "early writing" elsewhere, for instance in contemporary southern Mesopotamia, turn out to be very different objects, structurally, in their material aspects and social contexts, in their relation to earlier and contemporary graphic practices, and in the associated graphic ideologies. The early Egyptian development can thus be viewed as one among several equally original trajectories to writing, giving a stronger sense to the word "polygenesis": as referring not only to genetically independent developments, but also to equally original trajectories to writing. Among these original trajectories, those seen in Mesoamerica seem to offer a closer, if only partial, parallel to the Egyptian one.

Ken Takashima (University of British Columbia)

What are wén 文 *'Simple Graph' and* zì 字 *'Complex Graph' in the Shang Script?*
Friday, 25 October 2024, 2:30 pm – 4:15 pm

A conventional understanding of the word wén 文 is "simple graph" and zì 字 "complex graph". When they are put together, they yield a binomial expression "wénzì 文字", meaning "writing, script". It is widely accepted that in Chinese the "simple graph" refers to one "consisting of a single element" and the "complex graph" refers to one "with two or more elements" (Boltz 1993). In general, 文 is simpler because of its intrinsic, expressive or vivid quality than 字. Comparatively speaking, the former is easier to tell what it might have depicted, but the latter is harder to tell what and how it is made up, often indeterminable with more room for varied interpretations than 文 is. Against such a backdrop, this paper attempts to clarify the nature of 文 and 字 in the Shang script as seen in oracle-bone and bronze inscriptions in light of their underlying meanings we can identify by comparative lexicology.

Morohashi's DKWJ usually gives the first attested usage of binomial, trinomial, and other expressions, but for 文字, a binomial nominal compound, it merely says that came into being after the Qín 秦 (221-207 B.C.E.)—DKWJ 5.575. There must have been a reason for this. The paper argues that the reason is related to the forgotten lexical properties of 字 by the end of Qín. But the lexical properties of 文 seem to have lasted much longer than those of 字. The paper delves into what all these might have been.