Cylinder Seals and the Development of Writing in Early Mesopotamia

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Abstract

An introduction to the use of cylinder seals and the development of writing in Mesopotamia during the 4th millennium BCE. Written by Dr. M. Feldman, professor in the Department of Near Eastern Studies, Johns Hopkins University, and M. Lewis, Ph.D. candidate in the Department of Near Eastern Studies, Johns Hopkins University.

1 The City of Uruk and the Late Uruk Period

The city of Uruk is located in southern Mesopotamia (present-day southern Iraq) and was excavated by German archaeologists from 1912 until 1978, though not continuously (fig. 1). The archaeological site of Uruk is incredibly large, dwarfing later cities such as Athens and Jerusalem, and the two main areas of excavation were centered on the Eanna Precinct and the Anu Ziggurat, monumental religious buildings (fig. 2). These temples played a prominent role in the economic and political activities of the ruling elite. For more information on the archaeological site, please explore the Deutsches Archäologisches Institut1 website. This video², made by Artefacts³, shows a reconstruction of parts of Uruk.

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*Version 1.1: Aug 31, 2015 4:38 pm -0500
†http://creativecommons.org/licenses/by/4.0/
1http://www.dainst.org/das-dai
2https://vimeo.com/62546550
3http://www.artefacts-berlin.de/en/

http://cnx.org/content/m57703/1.1/
Figure 2: Map of Uruk. Image created by M. Lewis, after Falkenstein 1941.
Figure 3: Map of area showing relevant sites. Babylon is included for reference purposes. Image created by M. Lewis.

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The city of Uruk is often called ‘the world’s first city’ and was the center of southern Mesopotamia’s urban revolution. This development culminated during the Late Uruk Period, c. 3500-3100 BCE and is characterized by the massive urban expansion of a few settlements (fig. 3, fig. 4). These cities were surrounded and supported by an agricultural hinterland that provided grain and other produce. In connection with this expansion society became heavily centralized, social stratification increased, and craft specialization emerged (Liverani 1994: 25). These changes led to an administrative need to store surplus agricultural goods and to track the transfer of property from one individual or institution to another. This need was met by technologies that would eventually lead to the development of cuneiform writing – tokens, clay balls and pictographic tablets.

2 Writing

Development of Writing

The earliest writing in Mesopotamia occurred in Uruk, during the Late Uruk Period, in the form of economic and administrative texts discovered in the Eanna temple precinct. Two explanations have been suggested to explain the development of the new technology. Denise Schmandt-Besserat proposed an evolutionary explanation in which the progression from simpler administrative systems, such as tokens, to the more complex cuneiform writing system was a single, continuous development (Schmandt-Besserat 1996: 7; fig. 5, fig. 6). The second theory, advanced by Piotr Michalowski, is that writing was merely the most successful of several different systems used to store and communicate information (Michalowski 1994: 54-55). In this argument, the Late Uruk period was one of innovation and experimentation.
Figure 5: Evolution of Writing. Image courtesy of C. Woods and the Oriental Institute of Chicago, after C. Woods 2010.
Figure 6: CT scan showing tokens enclosed in bullae. Image courtesy of C. Woods and the Oriental Institute of Chicago, after C. Woods 2010.

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It is important to note that none of these technologies were designed to reproduce language. They were used to record information rather than the spoken word, and there is still some debate among scholars over exactly what language the people who invented these methods spoke. Cuneiform writing was not used to represent language until late in the Early Dynastic Period, c. 2600 BCE (Michalowski 1994: 54-55). Three early stages of the development of writing are recognized by scholars today, and the development of writing can be read about in more detail in C. Woods, Visible Language: Inventions of Writing in the Ancient Middle East and Beyond.

- Late Uruk Period/Proto-cuneiform I (c. 3300 BCE) – signs drawn onto a clay tablet using a stylus. These are mainly logographic or ideographic and do not represent spoken language (fig. 7)
- Jemdet Nasr Period/Proto-cuneiform II (c. 3100 BCE) – signs have become more abstract and tablets are larger and more complex. These include economic texts that probably represent the Sumerian language (fig. 8)
- Early Dynastic Period (c. 2900-2350 BCE) – signs are even more linear and are written in orderly lines. These tablets are administrative, literary and lexical (fig. 9, fig. 10)

![Figure 7: Proto-Cuneiform I. Image courtesy of M. Lewis. Object in the British Museum.](http://oi.uchicago.edu/research/publications/oimp/oimp-32-visible-language-inventions-writing-ancient-middle-east-and)
Figure 8: Proto-Cuneiform II. Image courtesy of the Metropolitan Museum⁵.

⁵http://www.metmuseum.org/collection/the-collection-online/search/327385
Figure 9: Early Dynastic tablet. Image courtesy of M. Lewis. Object in the British Museum.
Figure 10: Early Economic Text. Image credit: 'BabelStone' via Wikimedia Commons. Object in the British Museum.

3 Cylinder Seals

Overview

Cylinder seals are small, cylindrical objects typically made of stone and are carved with a design or inscription that forms a continuous frieze when rolled across wet clay (fig. 11). The administrative use of cylinder seals started during the Middle Uruk Period according to finds from the site of Sharafabad and
continued until roughly 300 BC when the use of cuneiform writing began to die out (Pittman 1994: 24, 25). The use of cylinder seals began at the same time as the development of writing and the use of bullae, originating in administrative needs and practices. More information on cylinder seals can be read on the Johns Hopkins Archaeological website.

**Uses of Cylinder Seals**

- Authenticating or legitimating a transaction (in a similar way to the modern-day signature)
- Preventing/restricting access to containers, rooms or houses
- Amuletic
- Sign of personal identity or professional affiliation

As objects, cylinder seals came to have their own value in Mesopotamia by virtue of being carved from stone, a rare resource, and through the imagery carved on them. The imagery could have an administrative or an amuletic function, though the earliest cylinder seals were valued more as a sign of authority within the administrative system.

The use of cylinder seals is attested in the archaeological record through the seals themselves and through ‘sealings’, pieces of clay or tablets which were impressed with a cylinder seal when wet. When studying seals, scholars can therefore use the **seals** themselves, **ancient sealings**, and **modern impressions** (modern sealings made for scholarly purposes) (fig. 12-14). In terms of scholarship, cylinder seals are useful as they can illustrate the chronological development of artistic styles and iconographic motifs as well as changes in their function and ownership patterns.

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**Figure 11**: The cylinder seal of Ilui-Sharrum.

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**Seals and Writing**

As cylinder seals developed in conjunction with tokens and writing they are often found in the same archaeological contexts, and their uses are likely to be closely connected. The shape of the cylinder seal may have developed out of the need to seal the earliest rounded bullae. Their precursor, stamp seals, were perfectly appropriate for sealing flat clay tablets and were much less complex to produce, but were less suitable for covering bullae (fig. 15). The increasing complexity of the bureaucracy may also have played a role in the expanding use of cylinder seals as they offered a larger surface area on which to carve designs. This may have allowed individual seals to be more personalized, meaning that the growing number of officials could have distinct seals (Ross 2014: 305). Another link to the development of writing is the possibility that the pictographic signs first used in early writing were derived from the motifs used in seal iconography (Ross 2014: 296).

**Style and Meaning**

There are two main styles of early cylinder seals – the **Uruk-style** and the **Jemdet Nasr-style**. The Uruk-style seals show animals and figures depicted in an exceptionally naturalistic fashion, suggesting that the seal carvers were aiming for expressive clarity (fig. 16). The motifs include ritual narratives involving temples, boats and offerings to gods, as well as depictions of the natural world in hierarchical arrangements. They are skillfully cut, detailed, and their composition tends to be balanced and aesthetically pleasing. The Jemdet Nasr-style seals are less detailed than Uruk-style seals and are characterized by the heavy use of drills and cutting discs, which produce round and linear marks respectively. Common motifs from the Jemdet Nasr-style include women with pigtails involved in domestic labor and herds of animals in front of temples (fig. 14). It is important to be aware that ‘Jemdet Nasr’ is also used to refer to an archaeological site as

6http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/cylinder-seals-from-the-ancient-near-east/

http://cnx.org/content/m57703/1.1/
well as a chronological period (c. 3100-2900 BCE). Jemdet Nasr-style seals are not restricted to the Jemdet Nasr Period and can be found in Late Uruk-period contexts.

The meaning and significance of the imagery used on the cylinder seals of this period has been discussed by several scholars.

**Meaning of Cylinder Seal Imagery**

- Specific families, administrative departments, or specific events related to the administration (Brandes 1979: 96-99)
- Different stages of the administrative hierarchy, the object or persons involved in the transaction (Dittmann 1986: 335-39, 346)
- The owner or the user of the seal, or details of the transaction - the commodity in question, its source or destination, or a specific event relating to its use (Pittman 1994b: 14)

Scholars have also addressed the apparent dichotomy between the Jemdet Nasr and Uruk styles, in reference to both the differences in iconography but also the distribution of seals and sealings. Jemdet Nasr-style seals are less attested in sealings, whereas the seals themselves are relatively common. In contrast, Uruk-style seals are rare, and their sealings have been found in much greater numbers. This pattern suggests that there were more Jemdet Nasr-style seals made, but that their primary use was not to seal objects or tablets, with the opposite being true for Uruk-style seals. The main explanation for the differences between these two style groups was suggested by Hans Nissen, who views the two styles of cylinder seals as having two different functions within the administrative system. The Uruk-style seals were property of, and used to identify, individuals, making it necessary for each seal to be visually distinct (Nissen 1977: 19). They were used to authorize transactions and control the movement and storage of goods (Nissen 1977: 20). As they were more complex and therefore time-consuming to produce, Nissen argues that they were property of elite members of society who were at the top of the administrative hierarchy (Nissen 1977: 20). In contrast, he suggests that the Jemdet Nasr seals were used to identify a ‘legal person’ such as an institution, and not a private individual (Nissen 1977: 19). In this case, it was less crucial for different seals to be distinguishable from each other, which allowed the use of repetitive motifs (Nissen 1977: 19). As the images on Jemdet Nasr seals show both women and “women’s” work, Nissen suggests that the seals may have belonged to female workers associated with temples.

Susan Pollock also views the differences between the two styles as being related to status, and highlights the gendered aspect of the imagery. Pollock argues that the Jemdet Nasr motifs reflect the effect of the urban revolution on women, noting that the motif of the “pigtailed” women working in groups shows the involvement of women in repetitive, possibly institutionalized, labor (Pollock 1999: 102). In contrast she notes that the male “priest-king” figure appears as an individual in scenes that are later associated with authority (Pollock 1999: 103). These observations suggest that the Uruk-style seals were more likely to be markers of individual identity and authority, whereas the Jemdet Nasr-style seals indicate instead membership in a collective. The Jemdet Nasr seals show an emphasis on the seal holder’s institutional affiliation, rather than their individual identity (Pollock 1999: 161).

In the study of cylinder seals it is crucial to remember to place them within the context in which they were created and used – that is, the administrative bureaucracy of the first Mesopotamian city states. Reducing the motifs carved into the seals to either decoration or a kind of ancient signature ignores their symbolic and communicative nature. As has been repeatedly emphasized in this overview, cylinder seals were part of a wider effort to develop technologies for storing information in response to the needs of an increasingly complex administrative bureaucracy. Rather than ignoring cylinder seals in a quest for ‘The Invention of Writing’, scholars should consider the system as a whole, acknowledging visual imagery and writing as complementary technologies that developed in tandem.
Figure 12: Assorted Cylinder Seals. Image courtesy of M. Feldman. Objects in the Vorderasiatisches Museum, Staatliche Museen zu Berlin.

Figure 13: Tablet showing ancient sealings. Image courtesy of the Metropolitan Museum.
Figure 14: Jemdet Nasr-style seal and modern impression. Image courtesy of the Johns Hopkins Archaeological Museum\textsuperscript{8}, Accession Number A. 1000\textsuperscript{9}.

\textsuperscript{7}http://www.metmuseum.org/collection/the-collection-online/search/329081
\textsuperscript{8}http://archaeologicalmuseum.jhu.edu/
\textsuperscript{9}http://archaeologicalmuseum.jhu.edu/the-collection/object-stories/cylinder-seals-from-the-ancient-near-east/jemdet-nasr-style-seal/
Figure 15: Stamp seal and modern impression. Image courtesy of M. Lewis. Object in the British Museum
Figure 16: Uruk-style cylinder seal and modern impression. Image courtesy of Marie-Lan Nguyen and PHGCOM via Wikimedia Commons. Object in the Louvre.

Selected Bibliography and Further Reading


http://cnx.org/content/m57703/1.1/

\textsuperscript{10}http://oi.uchicago.edu/research/publications/oimp/oimp-32-visible-language-inventions-writing-ancient-middle-east-and