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THE INTERFACE BETWEEN WRITING AND ART: THE SEALS OF TEPE GAWRA

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Résumé – L'article traite de l'influence de l'écriture sur l'art de la période urbaine dans le Proche-Orient ancien. J'analyse les compositions – comment les images sont organisées – sur les sceaux de Tepe Gawra, 5500-2000 av. J.-C. Je note que : A) les sceaux qui précèdent l'écriture portent des figures tête-bêche ou pêle-mêle qui ne montrent aucune action réciproque ; B) avec les compositions linéaires empruntées à l'écriture, la glyptique de l'époque protohistorique commence à lier les figures de simples compositions narratives, limitées à deux personnages ; C) à l'époque historique, la glyptique imite la syntaxe et les déterminatifs de l'écriture pour créer des scènes narratives complexes. Je crédite l'écriture de ce changement conceptuel illustré par le passage des compositions d'images répétées, qui ne savaient qu'évoquer une idée, aux scènes narratives, ainsi que de l'évolution des compositions considérées globalement, à celles qui étaient « lues » analytiquement.

Abstract – The article deals with the impact of writing on art during the Urban Period in the Near East. My analysis focuses on the compositions – the way images are organized – on the seals of Tepe Gawra, 5500-2000 BC. I note that: A) the preliterate seals feature figures head-to-tail or pell-mell that show no interaction; B) the proto-literate glyptic borrows the linear composition of writing to link the figures of simple narratives; C) in the historic period, glyptic emulates the strategies of writing, i.e. syntax and determinatives, to create complex narratives. I credit writing for the conceptual change from repetitious designs, simply able to evoke an idea, to complex narrative scenes; and from the preliterate all over patterns apprehended *globally*, to the literate compositions "read" *analytically*.

خلاصة – يعالج هذا المقال تأثير الكتابة على الفن من الفترة المدينية في الشرق الأدنى القديم. وفي هذا المقال أقوم بتحليل التراكيب - كيفية تنظيم الصور- على الأختام الاسطوانية في تبه جوارا، في الفترة الممتدة بين ٥٥٠٠ - ٢٠٠٠ ق.م. أدون بأنه:
أ - إن الأختام التي تسبق الكتابة تحمل صوراً لأشكال متعاكسة أو مختلطة والتي لا تظهر أي حركة تبادلية.
ب - مع التشكيلات الخطية المستعارة من الكتابة، بدأت النقوش على الحجارة في فترة ما قبل التاريخ بربط الأشكال، البسيطة التراكيب القصصية، والمحصورة بشخصيتين فقط.
ت - في الفترة التاريخية، يقتدي النقش على الحجارة بعلم النحو و تعليمات الكتابة من أجل خلق مشاهد قصصية معقدة.
إنني أرجع للكتابة هذا التغيير التصوّري المنظور له بطريقة إجمالية من خلال مرور تراكيب الصور المتكررة والتي كانت تعطينا فكرة بسيطة للمشاهد الروائية، بالإضافة إلى تطور العناصر القصصية والتي تتطلب قراءة تحليلة.

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In this paper I propose that the glyptic compositions changed with the advent of writing. In order to present my case as precisely as possible, I analyze the evolution of a single seal assemblage, that of Tepe Gawra in Northern Mesopotamia. I compare and contrast the seal compositions – how designs were organized on the face of seals, before, at the time of, and after the invention of writing. I show that at the first stage, preliterate circular compositions merely evoked ideas. At stage two, the proto-literate seals told simple stories by adopting the linear mode of writing and creating a "syntax" – an established order to connect figures. And at stage three, after literacy was well established, glyptic art was able to tell complex stories by pushing the ground line convention to new subtleties and developing a repertory of status markers imitating the determinatives signs of cuneiform writing. I dedicate this article to Henri de Contenson whose seminal work in Levantine Neolithic archaeology I greatly admire. I thank him wholeheartedly for his cordial collegiality and his immense generosity in sharing his knowledge*.

The Tepe Gawra Seals

The excavations at Tepe Gawra produced a large collection of some 700 seals and sealings spanning over four millennia. The assemblage, well published by E. A. Speiser[1] and Arthur Tobler[2], offers a remarkable sequence to examine the evolution of seal compositions at one specific site during the pre-, proto-, and literate periods. Although no cuneiform text has been recovered to date at Tepe Gawra – only a large collection of prehistoric tokens – one may assume that literacy pervaded the region as the rest of Mesopotamia[3].

The sixteen levels of continuous occupation can be correlated with three stages of the development of writing as follows:

• Stage 1. Preliterate: Halaf and Ubaid periods, levels XX-XIII, ca. 5500-4000 BC. (The seals that originated in the well dug from level XIII, are held to date at least from the preceding level XIV)[4].

• Stage 2. Protoliterate: Gawra period, levels XIIa-VIII, 4000-2900 BC. The Gawra period was contemporaneous with the Uruk and Jemdet Nasr periods when writing came about[5].

• Stage 3. Literate: Early Dynastic, Akkadian, Neo-Sumerian and Isin-Larsa periods, levels VII-IV, 2900-1800 BC. In these periods, the cuneiform script was used for all possible endeavors. Among the many genres represented in royal archives were historical, religious, magic and literary texts as well as formal and informal correspondence.

The preliterate glyptic

Starting with the deepest levels, the Tepe Gawra prehistoric seal assemblage of stage 1 consists of 39 stamp seals, among which five date from the Halaf period (5500-4900 BC) and 34 from the Ubaid period (4900-4000 BC). The designs carved on their face are as follows.

Twenty-two of the thirty-nine preliterate stamp seals bear geometric designs (Halaf: 3; Ubaid: 19) (**fig. 1**). These consist of crisscross patterns, (**fig. 1: 1, 3**) "quartered circles" dividing the field into four quadrants filled with linear patterns (**fig. 1: 11, 15**); and "center points" with lines radiating from a central dot or circle (**fig. 1: 37**).

Animal designs were also popular (**fig. 2**). They include horned animals such as antelopes, rams, mountain goats and cows, along with birds, snakes and fish (?). The animals can be readily identified

* I am thankful to Leah Welborn for research assistance.

1. Speiser 1935.
2. Tobler 1950.
3. Schmandt-Besserat 1992, II, p. 240-255.
4. Porada, Hansen *et alii* 1992, p. 93.
5. Rothman 1994.

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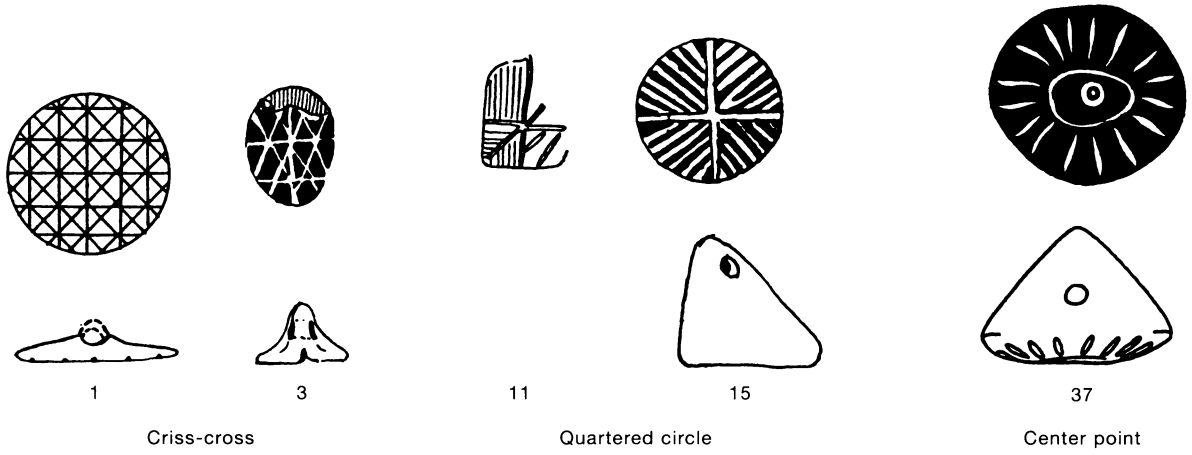

Figure 1: Tepe Gawra preliterate geometric seal compositions.
1. Button shape, serpentine, level XIX, Halaf. G7-465, Tobler pl. CLVIII and p. 244; **3**. Button shape, marble, Level XV, Ubaid, G7-176, Tobler pl. CLVIII and p. 245; **11**. Sealing, Area A, level D, Halaf, G6-544, Tobler pl. CLVIII and p. 245; **15**. Conoidal shape, terra cotta, level XVI (?), G7-185, Ubaid Tobler pl. CLVIII and p. 245; **37**. Conoidal shape, terra cotta, Level XIII, Ubaid, G6-451, Tobler pl. CLX and p. 245.

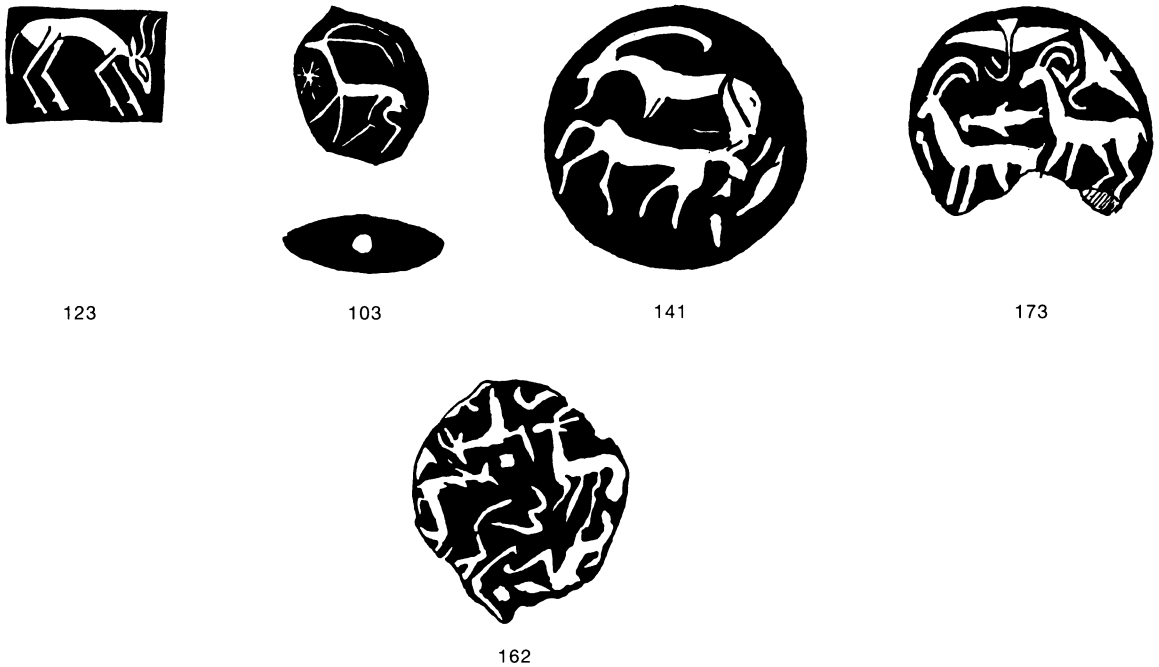

Figure 2: Tepe Gawra, preliterate animal seal compositions.
123. Impression, Area A, Halaf, G6-234, Tobler pl. CLXVI and p. 247. See also Porada, Hansen *et alii* 1992, Vol. 1, p. 85, and Vol. 2, p. 102, fig. 6:3; **103**. Lentoid shape, stone, Level XVIII, Ubaid, G7-312, Tobler pl. CLXIII and p. 247; **141**. Impression, Northeast Base, Halaf, G6-608, **173**. Impression, Level XIII Well, Ubaid, G7-147, Tobler pl. CLXX and p. 248; **162**. Impression, Level XIII, Ubaid, G5-1637, Tobler pl. CLXIX and p. 248.

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because the seal carver highlighted details characteristic of each species such as horns, ears, beards, tails, fetlocks or fish gills (?). The birds are pictured in flight with their wings spread out (**fig. 2: 173**). Otherwise, the animals are never shown in action. They are standing motionless (**fig. 2: 103, 123, 141**).

Anthropoid figures are late comers to preliterate glyptic art, appearing in level XIII, in the late Ubaid period, 4300-4000 BC (**fig. 3**). The images features an animal-headed creature with a pointed muzzle and sometimes long ears (**fig. 3: 95**) or horns (**fig. 3: 94**), a triangular torso with broad shoulders and narrow waist, long thin legs and arms sometimes ending as prongs (**fig. 3: 101**). The anthropoid is treated as a silhouette, with no rendition of facial features. It is either standing (**fig. 3: 94**), walking with bent knees in a semi-erect posture (**fig. 3: 101**), or sometimes seated in the air (**fig. 3: 100**).

The three types of motifs that epitomize the preliterate glyptic compositions at Tepe Gawra, namely geometric, horned animals and anthropoid, share the following important characteristics.

94

95

98

100

101

102

92

Figure 3: Tepe Gawra preliterate figural seal compositions.
94. Impression, Level XIII Well, Ubaid, G7-146, TOBLER pl. CLXIV and p. 246; **95**. Gable shape, Serpentine, Level XIII, Ubaid, G6-323, TOBLER pl. CLXIV and p. 246; **98**. Impression, below level XV, Ubaid, G6-607, TOBLER pl. CLXIV and p. 246. See also PORADA, HANSEN *et alii* 1992, vol. 2, p. 102, fig. 6:7; **100**. Impression, level XIII Well, Ubaid, G6-607, TOBLER pl. CLXIV and p. 246; **101**. Impression, level XIII, Ubaid, G6-240, TOBLER pl. CLXIV and p. 247; **102**. Impression, level XIII Well, Ubaid, G7-98, TOBLER pl. CLXIV and p. 247; **92**. Impression, level XIII Well, Ubaid, G7-100, TOBLER pl. CLXIII and p. 246.

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The main concern of the preliterate seal carver was to cover the entire face of the seal. To achieve his goal he chose geometric patterns (**fig. 1**), or drew one animal in the size of the field (**fig. 2: 123**). When multiple figures were involved, they were repeated, cookie-cutter style, as many times as necessary to fill up the space (**fig. 3: 92**), or more typically, animals and anthropoids were organized in circular compositions. For example, two beasts were placed one above the other, facing in opposite directions (**fig. 2: 141**); four mountain goats assumed a swastika formation (**fig. 2: 162**); and horned animals and anthropoids were scattered topsy-turvy (**fig. 3: 94-95, 98, 100-102**). Whenever there was an empty space between the figures, it was blocked with fillers of various shapes, such as stars (**fig. 2: 103, 3: 95**) or mere squiggles (**fig. 2: 141, 162**).

Circular compositions are particularly mystifying because they have no privileged direction. When some of the figures are standing up, the others are upside down (**fig. 3: 94, 95, 98, 100, 101, 102**). In the case of seal 100, when the anthropoid is upright, the horned animals hover upside down above him and vice versa (**fig. 3: 100**).

The preliterate compositions also show no privileged status. Anthropoids and animals are treated uniformly, on a similar scale and as a result, none of the figures emerges as more or less significant than the next. Status markers such as headdress, garment, scepter, are not used.

Lastly, the figures are merely juxtaposed but do not interact. The seal featuring a line of anthropoids uses the repetition strategy of the contemporaneous ceramic decoration. The anthropoids, holding hands like paper dolls, are replicated as many times as necessary to cover the field, with no attempt to show an interaction (**fig. 3: 92**). In the circular compositions the beasts facing in opposite directions ignore each other (**fig. 2: 141**) and so do animals and anthropoids suspended in a jumble in a timeless, fantastic space without gravity (**fig. 2: 162, 3 : 94-95, 98, 100-102**). Because the figures are tumbling haphazardly each in their own direction, the meaning of their gestures and to whom they are addressed remains enigmatic. Why the anthropoid of seal 98 waves one arm or that of seal 102 raises his hands is anyone's guess (**fig. 3: 98, 102**).

At this first stage preceding the advent of writing, the seals represented an individual or an office by means of a unique geometric, animal or figurative motif. The typical circular, rotating compositions transported the viewer into a joyous chaos that was meant to be seen globally like leaves whirling in the fall wind or the images in a kaleidoscope. It is likely that the images had a meaning. For example, the anthropoid associated with horned animals may have referred to a myth, in which case the composition evoked the legendary figures, but did not tell their story.

The proto-literate glyptic

The proto-literate glyptic of Tepe Gawra preserved many of the preliterate characteristics. Fifty-six of the seals bore all-over geometric designs. Almost one third of the 64 animal designs depicted a single beast drawn from the same menagerie as previously. The anthropoid with pointed head and flexed legs continued to be mixed topsy-turvy with animals. However, new personages are introduced into the repertory with the appearance of humans in upright posture.

There are other more significant changes in the proto-literate glyptic. Novel are linear compositions, organizing designs like the signs on the earliest impressed tablets. For instance, fifteen gazelle horns are disposed in five parallel rows (**fig. 4: 171**). Even more importantly, humans are placed in line with other features (furniture or altars?) in order to form an imaginary ground line (**fig. 4: 82-83**). The new linear compositions were very important because a ground line defines the horizontal and vertical dimensions of a designed space. Accordingly, instead of the former preliterate topsy-turvy arrangements, the figures started to be organized in the same upright position, which facilitated interaction.

After borrowing the linear mode of writing, art also adopted the syntax of writing. Just as the order of words on a tablet was semantic (in English, "Gilgamesh killed Humbaba" and "Humbaba killed Gilgamesh" have a different meaning), the order of figures in a design became semantic. The position

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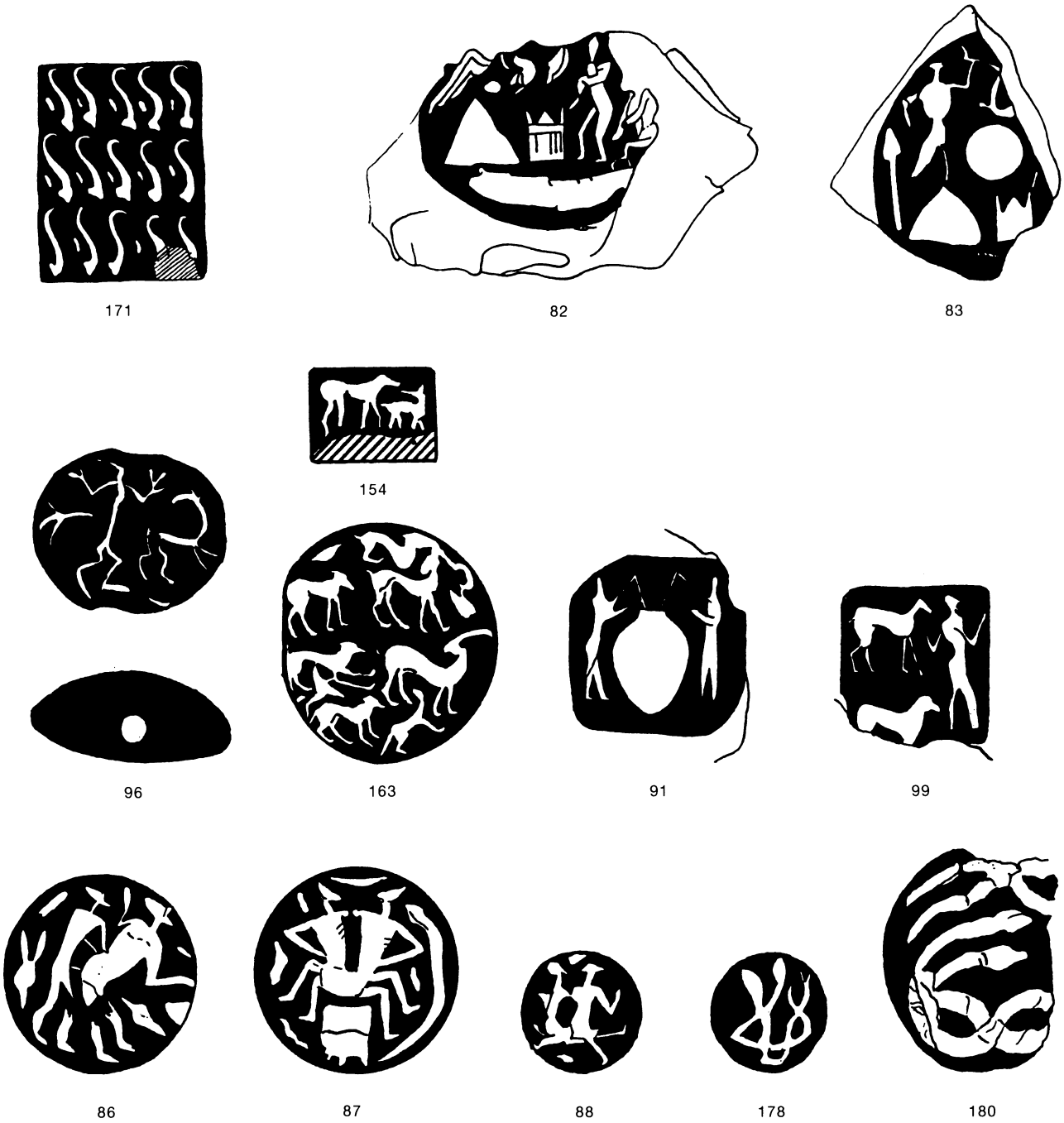

Figure 4: Tepe Gawra, proto-literate seal compositions.
171. Impression, level XI, Early Gawra Period, G7-65, Tobler pl. CLXX and p. 248; **82**. Impression, level XI A, Early Gawra Period, G6-101, Tobler pl. CLXIII and p. 246, **83**. Impression, level XII, Early Gawra Period, G4-998, Tobler pl. CLXIII and p. 246; **96**. Lentoid shape, marble, Level X, Gawra Period, G4-605, Tobler pl. CLXVI and p. 246; **154**. Impression, level XI A, Early Gawra Period, G6-1651, Tobler pl. CLXVIII and p. 248; **163**. Impression, level XI, Early Gawra Period, G5-1619, Tobler pl. CLXIX and p. 248; **91**. Impression, level XII, Early Gawra Period, G4-956, Tobler pl. CLXIII and p. 246; **99**. Impression, level XII, Early Gawra Period, G4-1193, Tobler pl. CLXIV and p. 246; **86**. Impression, level XI A, Early Gawra Period, G7-58, Tobler pl. CLXIII and p. 246; **87**. Impression, level XI A, Early Gawra Period, G5-1425, Tobler pl. CLXIII and p. 246; **88**. Impression, level XI, Early Gawra Period, G7-82, Tobler pl. CLXIII and p. 246; **178**. Impression, level X, Early Gawra Period, G3-481, Tobler pl. CLXX and p. 248; **180**. Impression, level XI, Early Gawra Period, G5-1248, Tobler pl. CLXX and p. 248.

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and direction on the ground line was manipulated according to an established order to depict particular situations. For instance, an anthropoid behind an animal is understood as following it (**fig. 4: 96**); two dogs placed one above the other and a man all facing in the same direction are recognized as a group proceeding together, and since the man walks ahead, he is the leader with the two dogs following him (**fig. 4: 99**); or two individuals facing each other on either side of a big jar are identified as cooperating in churning a brew together with big sticks (**fig. 4: 91**). Gestures that were nonsensical in the preliterate circular designs can convey emotions, reactions, intentions, expectations according to the context. For example, anxiety is expressed when animals turn their heads backwards to inspect an approaching anthropoid (**fig. 4: 96**) or a pack of dogs (**fig. 4: 163**), but it becomes a loving gesture when a calf looks back towards his mother (**fig. 4: 154**).

The scenes characteristic of the proto-literate period, or stage 2, remained simple, involving most often only two obvious protagonists such as copulating snakes (**fig. 4: 178, 180**) or lovers in various amorous positions (**fig. 4: 86-88**). The interaction was predictable, for example, animals were being chased, a calf followed his mother (**fig. 4: 96, 154**). Interestingly, status markers were still absent. Even in the erotic scenes, the status or sex of either partner is not revealed, except for one penis (**fig. 4: 86**). Otherwise, breasts, beard or other aspects of sexual dimorphism are not noted, and status markers in the form of headdress, hairdo or garments are non-existent.

The glyptic art of the Gawra period, contemporaneous with the advent of writing in Mesopotamia, marks the beginning of visual narratives at the site. Seals started to picture action and thus tell a story when, like the signs in a text, figures started to be organized according to an established order in linear compositions. It is important to note that the development from global pell-mell compositions to linear analytical narratives occurred on stamp seals. This makes it clear that the invention of the ground line took place on stamp seals – before the switch to cylinder seals. The change from circular to linear cannot be related to the seal format. It suggests a new conceptual outlook.

The glyptic of the literate period

The simple scenes limited to few participants on the proto-literate seals were harbingers of the complex narrative compositions featured on the glyptic of the literate period. A single cylinder seal, Tepe Gawra 57 (**fig. 5**), will suffice to show the major developments in the glyptic of level VI, ca. 2200-2000 BC, when in the Neo-Sumerian period cuneiform writing had reached its classical form. The script, mostly syllabic, had then a repertory of some 600 signs. As I discussed in the introduction, writing also included various means of modifying the value of particular signs. Among them, the size of the signs for abstract numbers was semantic, for example, a small wedge stood for "one" and a large wedge for "sixty." Determinatives denoted a general class. For instance, the star-shaped sign DINGIR highlighted the divine names[6]. The *gunu* form consisted of covering a sign with short strokes to add meaning[7]; *gunification* is particularly interesting because it may be as ancient as the striated tokens represented among most token types[8]. The convention that persisted on and off through the centuries is no longer understood as expressing a greater order of magnitude[9], but no new interpretation has been offered. Finally, of course, the signs were placed in the strict order dictated by the Sumerian syntax, since in virtually all languages the order of words has an influence on meaning.

6. Labat 1976, p. 48-49 : 12.
7. Hayes 2000, p. 123-124.
8. Schmandt-Besserat 1992, I, p. 204: 1.31 ; p. 209 : 3.22-24 ; p. 212 : 4.10 ; p. 214 : 5.8 ; p. 216 : 6.13 ; p. 218 : 7.11 ; p. 221 : 8.17 to 22.
9. Langdon 1928, p. 52-53 : 372, 375.

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Figure 5: Tepe Gawra, Cylinder seal, n° 57. R 649, Speiser 1935, pl. LX and p. 129.

Status Markers.

Seal 57 is made of green serpentine and measures 31 by 18 mm[10]. The seal features a presentation scene, a motif typical of the Neo-Sumerian period[11]. Enki, the great Mesopotamian god of water, gives audience to a worshipper introduced by two minor deities (**fig. 5**). Status markers identify the various figures and their role as follows:

a. Horned headdresses symbolize divinity. The three personages wearing the horned headdresses are deities. The individual who is bareheaded (or wears a feathered headdress?) is a common mortal.

b. The undulating streams of water with six fish pouring from the shoulder of the seated figure identify it as Enki, the god of water, one of the three main male deities of the Mesopotamian pantheon.

c. Size denotes importance. Although, the figures' heads and feet are all at the same level in order to satisfy the Mesopotamian convention of isocephaly, the seated figure is roughly twice the size of those standing. Size earmarks Enki as a major god compared to the two minor deities. In turn, the worshipper, who is the same size as the minor gods, is to be identified as an official of high status, probably a king.

d. Space shows importance. Enki occupies about half of the composition spelling out his importance. On the other hand, the smaller space allotted to each figure of the group underlines their lesser significance.

e. Garments indicate sex. The long robes and the fringed shawls, typical of male attire identify the figures as men (and so do the beards).

f. Garb marks status. The more important the deity the more intricate is the attire. The great god Enki wears a flounced robe, the most elaborate garment of the composition. The first minor god has a pleated dress, which in turn is more intricate than the tunics of his companions merely decorated with a fringed hem. The complexity of the garb, and therefore the importance of the figures, is shown by an increasingly busier linear design consisting respectively of series of short strokes, long parallel lines, and a crisscross pattern.

g. Hair underscores rank. The shorter the beard, the lesser is the god. Note that the minor deity to the far right sports a short goatee and not a full beard like the two other gods, pointing out that he is last in the divine pecking order. Finally, the common mortal is devoid of any facial hair. Also, the worshipper has short hair, whereas the gods wear long hair.

10. Speiser 1935, pl. XV: 57.
11. Collon 1987, p. 36-37.

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Seal 57 shows how in a literate glyptic composition, the status markers were as effective in encoding information in a visual narrative scene as the determinative signs in a text. The horned headdress indicating deities matches the star-shaped sign DINGIR highlighting a divine name in a cuneiform text. The size disparity between minor and major figures in art corresponds to the value difference between the small and large wedges. The busy flounced dresses of Enki and of the first minor god are reminiscent of the *gunu* form, or covering a sign with parallel strokes to add meaning. The status markers shared yet another similarity with the determinatives signs of writing, namely their meaning had to be learned from cultural tradition. The meaning of an individual with rivers full of fish emerging from his shoulders cannot be guessed.

Image "Syntax"

After establishing the nature and pecking order of the figures, the dynamics of Enki's audience is conveyed by exploiting the semantic potential of a linear composition. The minor deities' and petitioner's feet are aligned with those of Enki and the legs of his throne to draw an imaginary ground line binding the figures in space and time. And once the figures were introduced as the participants in the same event, it was possible to give meaning to their orientation, position, order and direction as follows:

a. Orientation suggests interaction. Enki faces the group and the group faces Enki, indicating a meeting.

b. Position indicates location. Enki sits on his throne, suggesting that the meeting is taking place in his residence, the Abzu in the watery abyss. The figures walking are visitors from elsewhere.

c. Position illustrates dominance. Enki is depicted seated in majesty, emphasizing his dominance. In contrast, the three supplicants are standing, denoting subservience.

d. Order indicates eminence. The minor god closer to Enki is more important than the one placed at the end of the composition.

e. Situation shows participation. Although the torsos of the four individuals are shown frontally, the faces are turned in profile and are all placed at the same level. Eye contact suggests that the participants are devoting full attention to the meeting.

f. Gesturing translates interaction. Enki extends his arm to welcome the visitors. The two minor gods cross their arms in adoration. The worshipper has a dual gesture. He lifts his right arm in reverence while presenting a lamb with the left.

g. Placement indicates relationship. The two minor deities frame the worshipper indicating their support.

h. Rhythm shows attitude. The three figures advance in step towards the deity denoting their cooperation.

i. Direction suggests mood. By 2000 BC, the direction left to right was well established for writing the cuneiform script, consequently, as Arnheim proposed it for modern readers, the Mesopotamians probably instinctively read pictures from left to right[12]. Enki who faces towards the right is thus perceived as being at ease and benevolent. Instead, the petitioners' apprehension to meet with Enki is hinted by their approach in the opposite direction, from right to left.

j. A gift stipulates reciprocity. The worshipper brings a lamb offering to Enki in an effort to propitiate the great god before presenting a petition.

k. Two objects (swords?) "floating" on either side of the worshipper remain ambiguous. Because they are unrelated to the ground line, it is unclear whether they are meant to identify or qualify the minor gods or the worshipper, or if they are mere esthetic fillers.

l. Hand orientation tells the mood or inner disposition. The worshipper turns the palm of his hand towards himself, covering his mouth, to express respect and submission. Based on the usual god's

12. ARNHEIM 1974, p. 35.

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presentation scenes[13], it is likely that Enki's hand (which is not shown) is turned outwards, expressing his willingness to hear a petition. If that is true, things look good for the petitioners!

m. The scene is to be understood as arresting the flow of an event at its climax. The viewer may reconstruct the sequence of events that led to the interview (and perhaps the outcome that will follow).

In sum, at this third stage "reading" a glyptic scene, such as that carved on seal 57 of Tepe Gawra, took three types of analyses: 1) Identify the images; 2) Assess the status markers, such as a headdress or the lack thereof; 3) Interpret the plot by evaluating the respective order, direction, orientation, position and size of each figure. These cognitive processes were akin to those involved in reading a Sumerian tablet. Reading a cuneiform text involved: 1) Identifying the characters, 2) Assessing the determinatives, 3) Interpreting the text by considering the word order, or "syntax." By borrowing the strategies of writing, namely linearity, a syntax or determined arrangement of figures, and a repertory of status markers that functioned like determinatives, glyptic art could tell complex stories involving multiple protagonists of different status.

Conclusion

The changes in glyptic art illustrate the profound impact of writing on the Mesopotamian culture. In fact they demonstrate that literacy brought fundamental conceptual transformations in art. The evolution from evocative to narrative in seal carving, as well as other forms of art in the ancient Near East, such as pottery, stone sculpture and wall paintings, denotes different cognitive skills[14]. Namely, the preliterate topsy-turvy compositions and repetitious designs were apprehended globally, but the literate linear compositions were "read" analytically. Art, which is a unique mirror of culture, reflects the schism that separates preliterate from literate societies. It illustrates with remarkable clarity how the preliterate Near Eastern societies perceived the world circularly and all-inclusively, whereas the literate cultures saw it analytically and sequentially.

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13. Collon 1995, p. 37 : 113-118.
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