

## Chapter 8.1

# MURALS AND FLOOR PAINTINGS AT ‘AIN GHAZAL

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***Abstract:** Painting on interior walls and floors of houses was a common practice at ‘Ain Ghazal. The chapter describes the panels of flat white or red color and the few red-on-yellow, or red-on-white linear compositions. The colorants are discussed, in particular lime for white, ochre for red, and limonite for yellow, as well as the techniques involved. The ‘Ain Ghazal assemblage is then compared to those of contemporaneous sites before reviewing the traditional ancient Near East color symbolism as revealed by the Bronze Age cuneiform texts. Finally the paintings are shown to reflect the cognitive skills of a Neolithic community.*

***Key Words:** painting, color, ochre, lime, red*

### INTRODUCTION

For centuries the villagers of ‘Ain Ghazal routinely brightened the inside of their homes with vivid colors. In this chapter, I present the murals and floor paintings unearthed at the site and their evolution through its occupation. I describe the choice of colors and the style of the painted compositions, discuss the pigments and the technologies involved in their preparation and application, compare the paintings with those of contemporaneous Near Eastern sites, and, finally, analyze the place of color in Neolithic symbolism and how the style of the paintings may reflect the cognitive skills of their age.

### The Chronology

Painting was an integral part of the ‘Ain Ghazal architecture during most of its occupation (see Rollefson, chapter 1). During the most prolific period, the Middle Pre-pottery Neolithic B period (MPPNB), 8500-7500 BC, the interior walls and floors of the small, one storied houses were painted with white and red flat colored panels. There were also several simple compositions of geometric designs (Rollefson 2008: 78).

The same white and red color scheme continued in the Late Pre-Pottery Neolithic B (LPPNB), ca. 7500-5900 BC, when, following a population influx, houses became larger and sometimes two-storied (Rollefson and Kafafi 2007: 212; Rollefson 1997: 291; Kafafi and Rollefson 1995: 17). However, the public structures, “temples,” which made their appearance during this period, were left bare.

The use of color decreased in the Pre-Pottery Neolithic C period (PPNC), 6900-6400 BC, characterized by a general economic and cultural decline. Buildings were then divided into multiple small rooms that were still white plastered but less often red painted (Rollefson 1990: 38).

White plaster deteriorated in quality in the Yarmoukian period, ca. 6400-6000 BC and finally disappeared altogether before the site was abandoned (Rollefson 1990: 39).

## THE PIGMENTS

We will never know whether plant dyes were used to color and create compositions on the Neolithic plastered walls and floors since, except for charcoal or soot, organic colorants disintegrate leaving no perceptible traces behind. It is important to realize that the 'Ain Ghazal region was not rich in mineral ores providing durable pigments. Most of the stones found on the ground surface or at a low depth in the area were either not colored or weakly so. In fact, only five of the mineral ores easily accessible locally were capable of producing vibrant colors: limestone for white; ochre, i.e. iron ores, such as hematite ( $\text{Fe}_2\text{O}_3$ ), for red; limonite ( $2\text{Fe}_2\text{O}_3$ ) for yellow; bioxyde of magnesium ( $\text{MnO}_2$ ) for black; and a copper carbonate, malachite ( $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$ ), for bluish-green. Malachite was recovered at 'Ain Ghazal in the shape of a small clay lump of dark aqua or greenish color (Rollefson 1983: 10), but there is no indication that blue or green was ever used for painting at the site. There is also no evidence of magnesium.

The fact that the 'Ain Ghazal painters altogether avoided malachite and magnesium suggests that pigments were consciously selected. Among those chosen, lime plaster was vastly predominant. Hematite followed in many different shades from deep red to pink and brownish. Limonite was rarely used, and when so, only as the background for red designs. The palette of the 'Ain Ghazal painters was thus limited to only three of the five locally available pigments.

### The Color White

The first and foremost color of 'Ain Ghazal was the dazzling white of lime plaster (Fig. 1.1.19). Virtually every domestic structure built during the PPNB period involved the material. The walls, built of undressed stones set in mud mortar, were covered inside and outside with an all-over thick coat of plaster (Rollefson 2008: 78). Likewise, the floors were treated with a generous plaster layer. They covered burials of individuals of the community laid beneath the various rooms or, as shown from the dirt or pebbles attached below, were laid upon a more or less leveled ground surface of beaten earth, or a bed of pebbles.

The interior walls, the floors, and probably the ceilings were finished with an additional thin coat of pure white lime plaster, (Munsell Soil Color chart 10YR 8/1 and 10YR 8/2) (Rollefson 1990: 39). When houses were remodeled, or when additional burials necessitated repairs of the floors, new layers of plaster were simply applied upon the previous ones and refinished. Examples of rooms showing three, four or more successive re-plastering are not unusual (Rollefson 1984b: 26).

The constant finishing and re-finishing of all the large interior surfaces suggests that people were aware that plaster kept the houses warm in winter and temperate in summer (Rollefson 1990: 33). It is also likely that, beyond the practicality of plaster, white had both an esthetic and symbolic significance.

### The Color Red

The first settlers of 'Ain Ghazal arrived with the tradition of painting solid panels of flat red color in their homes (Pl. 8.1.1). Traces of paint spilled on the white floors, suggest that at first, red was applied exclusively on the walls (Rollefson 1990: 37). Things reversed after 8000 BC when the color was mostly used on the floors (Rollefson 1984b: 26).

The non-domestic buildings referred to as "temples" were not painted, but red continued coloring the large LPPNB houses, as well as the ground and upper floors of the two-storied buildings (Kafafi and Rollefson 1995: 17). The continuity of the tradition is well illustrated by a series of eight superimposed red floors in an apsidal/ circular building. The original red floor was plastered, re-plastered, and re-tinted several times during the MPPNB. Then, after a time of abandonment shown by a thin sterile layer, the building was re-

occupied in the LPPNB period, at which time the newcomers initiated a second series of superimposed red floors (Rollefson 1998: 47). Highlighting special architectural features became a characteristic of the period (Rollefson 1998: 49; 1990: 40). For instance, a window sill was painted red, and the hearths set in shallow floor depressions, were either completely covered with a red coat, or just set off by a four to six cm red band (Rollefson 1990: 37). Finally, the standing stones erected in non-domestic buildings were also treated with ochre (see Kafafi chapter 8) (Rollefson 1998: 53).

Although plaster continued to be used in the PPNC domestic architecture, red coloring became sporadic and mostly disappeared. It did not reappear in the Yarmoukian period, when plaster deteriorated to a poor quality (Kafafi, Lucke, Baeumler 2009: 26). Finally, plaster floors gave way to beaten earth (Rollefson 1990: 39).

Red occurred in the 17 shades of the Munsell color chart listed below. The colors ranged from pinkish gray, or weak red, to deep red and orange, or dark reddish brown. The fact that the most frequent tones were red (10R 5/6) and orange (10R 6/6) implies that the deepest and brightest colors were those most sought after. This raises the question whether ochre was enhanced by firing, as was already done in the PPNA (Shaham, Grosman, Goren-Inbar 2010: 2014).

10R 3/3 dusky red  
10R 4/4 weak red  
10R 5/3 weak red  
10R 5/4 weak red  
10R 4/6 red  
10R 5/6 red  
10R 6/6 orange  
10R 5/8 red

5YR 3/2 dark reddish brown  
5YR 5/3 reddish brown  
5YR 7/2 pinkish gray  
5YR 7/3 pink

2.5 YR 4/3 pink  
2.5 YR 4/4 reddish brown  
2.5 YR 4/8 red  
2.5 YR 5/4 reddish brown  
2.5 YR 6/6 light red

Because the walls of buildings were never preserved over a height of 60-70 cm, much of the evidence on the interior treatment of the houses is missing. However, the extant remains suggest that color was mostly applied at the junction between wall and floor (Rollefson 1990: 37). Ochre was also concentrated in specific areas of the houses like hearths (Rollefson 1990: 40) or niches (Rollefson, Simmons, Donaldson, Gillespie, Kafafi, et aliae 1985: 71-72) and most especially, around openings such as doorways and sills (Rollefson 1990: 42). On the other hand, surprisingly, the sub-floor burials were never marked (Rollefson and Kafafi 2007: 212-213).

### The Color Yellow

Yellow was the third and last color used at 'Ain Ghazal. Unlike white and red, it was not applied in large monochrome panels. Instead, it served only as background for red designs.

## The Red on Yellow or Red on White Painted Designs

The few surviving painted compositions are plain, exclusively geometric, and mostly linear. The simplest designs consist of a red band or a small red patch, while the most complex took the form of red and white checkers. The most frequent patterns, however, featured bundles of straight red lines pointing in various directions, which with some imagination, could suggest plant stems moving and overlapping in the wind. It is conceivable that the designs, which developed by repeating, multiplying, and combining vertical and oblique lines, extended into large compositions covering entire walls or floors.

The first composition discovered during the 1983 excavations came from a MPPNB level. It consisted of a triangular piece of wall plaster with a red, now elusive pattern. The design, located near a doorway, may originally have covered a large surface of the room since it extended around a corner onto the adjacent wall (Rollefson and Simmons 1985: 48; Rollefson 1984: 26).

In the third field season of 1984, three painted areas were located on two poorly preserved superimposed MPPNB floors in Squares 3273/3073 (Rollefson and Simmons 1985: 16; 1986a: 150). The three compositions shared the same colors, style, and linear patterns (Pl. 8.1.2a.) In each case, red designs on a yellow background stood out in reserve on solid red floors.

The first of these paintings located in locus 006 in Square 3273, measures 1 x 1.5m (Pl. 8.1.2b). It features sets of lines of irregular thickness and unequal length spreading in a fan-shape. Among them two sets of, respectively, three and six lines intersect at a sharp angle. Two dots and a small hook shape seem also to be part of the pattern.

The next fragment in square 3273, locus 39, shares the same vertical flow as the previous one, but here, the scale is smaller and the lines are tighter together (Pl. 8.1.2c). In the lower tier, five clusters of respectively nine, four, three and five lines of different thickness spread out in a fan shape. The motif ends with sets of horizontal strokes and zigzags.

The painting on the underlying floor in square 3273, locus 40, was damaged by a pit dug at a later period. It displays groups of nine parallel lines converging towards sets of thin and thick strokes arranged in various directions (Pl. 8.1.2d). The scheme is repeated to create a red zigzag pattern against the pale yellow or whitish background.

In 1985, the excavations in Square 3285, locus 003, uncovered a red patch surrounded by red smudges in the corner of an MPPNB building. An intricate pattern of comma-like strokes covered a surface of four by one meters at the center of the same room (Rollefson and Simmons 1986b: 52) (Pl. 8.1.3). The short curving segments, often in sets of three, were either arranged in orderly lines facing the same direction or scattered haphazardly.

The 1995-1996 excavations of Square F12 unearthed two further decorated floors in an apsidal building re-used in the LPPNB. The first showed a mere broad red band of 15-20 cm traced along the curved wall of the apse. (Fig. 8.1.1) The second displayed a checkerboard pattern of white rectangles, about 30 by 40 cm, in reserve on a red field (Rollefson 1998: 47).

## THE TECHNIQUE

The preparation of pigments required a great deal of work. Ochre was simply ground using the age-old technology of stone mortar and pestle. Instead, lime, regarded as one of the first manmade materials, signaled new advances in pyrotechnology with temperatures able to alter the limestone molecular structure (Rollefson 1990: 33).

According to the literature, the process of making lime plaster entailed collecting pebbles along the river and stacking them in deep pits serving as kilns. After a long combustion of 12 to 24 hours at temperature of 750-850

degrees C, limestone changed to calcium oxide or lime. When the kiln had cooled off, the calcinated pebbles were pounded into powder, mixed with water, and stirred into a creamy consistency that could be easily applied to the walls. The lime plaster would become hard in about 48 hours (Wulff 1966: 133-134).

Plaster fragments stored at Yarmouk University, Irbid, show that the plasterwork at 'Ain Ghazal consisted of two distinct layers. A thin upper course, about 2-4 mm thick, overlaid a coarse foundation of about 2-6 cm. The two layers differ in composition. The lower part is full of pebbles and shows a fine pitting usually typical of a vegetal temper. Instead, the top layer is devoid of any inclusions and perfectly homogeneous. Both parts range in consistency from very hard and compact to soft and crumbly, possibly depending on their exposure to water in the soil (Kafafi, Lucke, and Baeumler 2009: 31). The two layers also differ in color and treatment; the lower one has a dull grey-buff shade, while the upper one is pure white and burnished to a gloss, probably by rubbing with a smooth stone.

Polarizing microscopy, X-ray diffraction, and calcimetry tests performed by Ja'fer Telfah, at the Institute of Archaeology and Anthropology, Yarmouk University, Irbid, Jordan (Telfah 1997), determined that the coarse layer was composed of uncalcined marl and lime, tempered with ground shells, flint and bones (Telfah and Kafafi 2003: 53). In contrast, 20-40% of the upper white layer consisted of burned lime or marl, and 80-60% of fine-grained uncalcined lime or marl with the addition of quartz. In other words, as verified by the presence of foraminifera microfossils in the matrix, only 20-40% of the sediments of the upper layer had been fired. These results make two interesting points. First, they confirm Goren's and Goldberg's conclusions that, contrary to the theory, the plaster from the Neolithic sites of Yiftah'el, Tell Teo, Beisamoun, and Hurbat Galil, involved minimal combustion (Goren and Goldberg 1991: 138). Second, samples from PPNB and PPNC Basta and PPNB Ain Jammam proved to have a similar composition, which implies that people exchanged information on the techniques of manufacturing lime plaster.

No evidence for kilns or lime manufacture was found at 'Ain Ghazal. But the processing of ochre is well documented by red stained flint blades, stone mortars, querns and grinders (Rollefson 1983: 7; 1984a: 9), as well as two pieces of ochre, about 5-6 cm, showing traces of rubbing (Rollefson 1983: 9). The solvent used to bind ochre after it was finely ground has not been identified. However, the large surfaces involved make it unlikely that, as in the historical period, marrow, animal fat, eggs or plant resin would have been used. We are only left to speculate that ground ochre was simply added to the lime paste.

How the white or red finishing coat was applied on the wall and floor plaster is also a mystery. The surface generally exhibits an even thick coat never tapering into a thin film. There is no visible trace indicating whether tufts of grass, goat fleece, pads, or wooden trowels were used to spread the material.

The design techniques are also unknown. The compositions were generally in such poor condition that they did not survive excavation. Only the paintings of Square 3073/3273 were carefully removed, using the best available techniques of the time. But the crates mysteriously disappeared after leaving the site, with the result that not a single example is presently available for first hand examination. According to the field notes, all motifs were traced by hand (Rollefson 1990: 37). This seems to be the case for the comma-like strokes that taper at one end, as could be expected from a hand movement. Also, patterns drawn with the thumb, index, and middle finger could explain the frequency of groups of three lines or three strokes. However, it is more likely that the groups of nine and ten long and straight parallel lines were traced with reeds or sticks dipped in red paint.

## PARALLELS IN NEAR EASTERN SITES

The 'Ain Ghazal paintings have parallels in many near or far Near Eastern contemporaneous sites (Cauvin 1997: 242). In this section, I compare several assemblages in order to determine which features they share and which are unique.



Fig. 8.1.1. 'Ain Ghazal. Red line on a floor in Square F12.

White lime plaster was not a Neolithic invention since it was already used in Natufian Ain Mallaha and Hayonim, ca. 11, 000 BC (Aurenche 1981: 507). Its usage reached a climax in 9th and 8th millennium BC Levantine farming villages such as Wadi Shu'eib (Simmons, Rollefson, Kafafi, et aliae 2001: 1), Gwair (Najar 1994: 79), Jericho (Kenyon 1981: 73), Beidha, Tell el-Farah, Nahal Oren, Abou Gosh, Bouqras, Abu Hureyra, Labwe (Cauvin 1978: 50-60), and Tell Assouad (Akkermans and Schwartz 2003: 67). At Tell Ramad in Syria, whitewash was applied on clay rather than plaster (Contenson 2000: 13). Outside the Levant, lime plaster was also known at Asikli in Turkey and as far as Jeitun in Central Asia (Nunn 1988: 20). At several sites, including Umm Dabaghiyah and Yarim Tepe in Mesopotamia, or Ali Kosh in Iran, white plaster was made of gypsum rather than lime (Aurenche 1981: 504). White walls and floors were, however, in no way ubiquitous. For example, there is no evidence of plaster in the Syrian sites of Tell Aswad (Aurenche 1981: 507), and Jerf el Ahmar (Stordeur 2010: 566).

Likewise, a red painted parapet from the Mesolithic site of Ain Mallaha, ca.11,000 BC, shows that ochre painting preceded the Neolithic (Nunn 1988: 34). Red walls and floors became most popular in the Neolithic Levant at Beidha, Jericho, Beisamoun, and Yiftahel, but also as far north as Asikli in Turkey, and as far east as Tepe Guran and Ali Kosh in Iran (Nunn 1988: 16; Schmandt-Besserat 1980: 141-142). Black glossy floors were unique to Abu Hureyra (Akkermans and Schwartz 2003: 63).

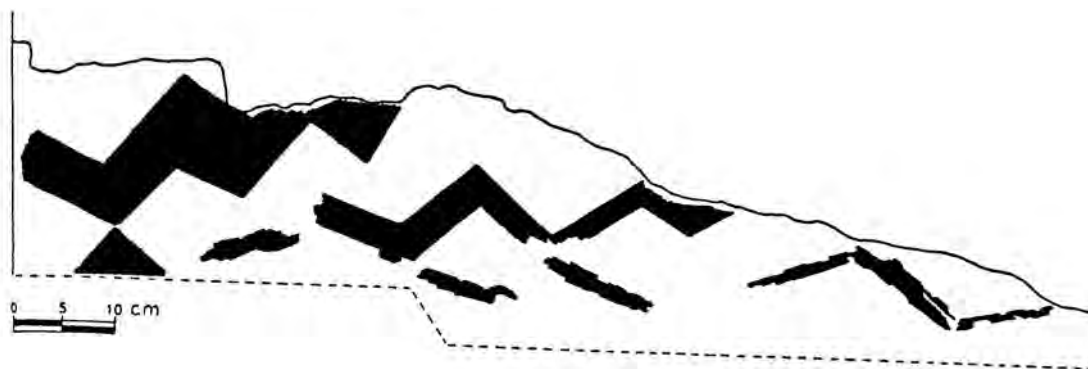


Fig. 8.1.2. Mureybet graphic design after O. Aurenche, *La Maison Orientale. L'architecture du Proche Orient ancien au milieu du quatrième millénaire*. Bibliothèque Archéologique et Historique: 109, 1981.



Fig. 8.1.3. Umm Dabaghiyah, line of animals, after D. Kirkbride (1975), *Umm Dabaghiyah: A fourth Preliminary Report*. Iraq 37: 3-10. H. 17, L. ca. 37 cm.



Fig. 8.1.4. Tell Halula, female figures, after M. Molist (1998), "Des représentations humaines peintes au IX<sup>e</sup> millénaire BP sur le site de Tell Halula (Vallée de l'Euphrate, Syrie)." *Paléorient* 24: 238.



Fig. 8.1.5. Tell Halaf, ca. 5500 BC, pottery painting, after H. Schmidt (1943), *Tell Halaf I: die praehistorischen Funde*. Berlin: Walter de Gruyter. Pl. V.



Fig. 8.1.6. Tepe Gawra, seal, Ubaid period ca. 4500 BC, after Arthur J. Tobler (1950), *Excavations at Tepe Gawra, Vol. II*. Philadelphia: University of Pennsylvania Press. Pl. 164, p. 246.

The Neolithic paintings generally belonged to house interiors, except at Ba'ja where a composition decorated a tomb (Gebel 2002: 123, 127). At various sites, color underlined specific architectural features. At 'Ain Ghazal, the fire places were outlined in red but at Beidha it could also be in black (Nunn 1988: 34). Like at 'Ain Ghazal, Asikli, Jericho, Beidha, Hacilar, and Çatal Hüyük had a predilection for painting the lower part of the walls, immediately above the floors (Nunn 1988: 16). For example, rooms at Beidha had a red, purple or brown band running at the base of the walls. Other types of furniture not attested at 'Ain Ghazal, such as benches, were colored black at Beidha (Nunn 1988: 34).

The Neolithic painters were mostly restricted to smear color in large panels or trace red designs on a white background. 'Ain Ghazal and Umdabagiyah in Mesopotamia were among the rare sites to use yellow (Nunn 1988: 20), and Abu Hureyra, Beidha, Djade el Mughara, and Mureybet were among those to use black (Nunn 1988: 20). At Beidha malachite was prepared in a workshop into cake-like lumps but, as at 'Ain Ghazal, there is no trace of green in the paintings (Kirkbride 1968: 268).



The style of the Neolithic floor and mural compositions was exceedingly archaic. They generally consisted of mere lines or simple geometric shapes and only rarely included figures. Linear patterns and shapeless areas painted in red and black were most characteristic. At Umm Dabaghiyah in Iraq, sets of wavy lines contrasted with areas filled with large dots (Kirkbride 1975: Pl. 7a). A painting at Mureybet featured zigzag designs similar to those of 'Ain Ghazal but in black and perhaps red on a white background (Aurenche 1981:226; Nunn 1988: 34) (Fig. 8.1.2). Jade al Mughara created somewhat more complex geometric shapes in red, black and white (Coqueuniot 1999: 41; Powell 2008: 11). Lastly, the Ba'ja tomb was decorated with enigmatic radiating stumps and a ladder pattern in red on white (Gebel 2002: 123, 127).

Bouqras, Umm Dabaghiyah, and Tell Halula produced figural representations but there are none at 'Ain Ghazal. Animals were pictured at Bouqras and Umm Dabaghiyah. The Bouqras frieze displayed a sequence of eighteen cranes or ostriches painted red on a white wall. Equids walking one behind the other were pictured at Umm Dabaghiyah (Fig. 8.1.3). The Tell Halula composition represented twenty-three highly stylized female figures arranged in brochettes of two, three, and four scattered in various directions (Molist 1998: 81) (Fig. 8.1.4). Some of them stood upright, others sideways, and still others upside down. Some faced toward the right and others toward the left.

The Neolithic mural and floor painted compositions were trend setters compared to the contemporaneous forms of art such as pottery paintings and glyptic. The late 9th millennium 'Ain Ghazal designs anticipate the panels of solid colors, the zigzags, and checkers decorating the 8th millennium Neolithic potteries. The animal files of cranes or donkeys of Bouqras and Umm Dabaghiyah find innumerable parallels, centuries later, on the Halaf pottery and glyptic (Fig. 8.1.5). The females of Tell Halula announce the topsy-turvy arrangements of the preliterate seals (Fig. 8.1.6).

Compared to other Neolithic mural and floor compositions those at 'Ain Ghazal are among the simplest and most archaic. They shine by their paucity of color as well as the lack of imagination and talent of the painters.

## THE SYMBOLISM

All societies attribute a meaning to colors. It is therefore logical to assume that red and white had a particular significance for the people of 'Ain Ghazal. Of course, although the colored panels survived the millennia, their symbolism did not. A possible recourse to understand their significance is offered by the Mesopotamian cuneiform literature. Although these texts are separated by centuries from Neolithic 'Ain Ghazal, they are an important source of information on the Near Eastern customs and beliefs as far back as the Bronze Age.

According to several magic texts, red was deemed to frighten and repel evil spirits. This is to be understood by the words an exorcist addressed to demons, "I donned against you a terrifying red scarf and I dressed my pure body against you in a red cloak, a cloak of awe" (Geller 2007: 226). Red not only safeguarded against the assaults of evil spirits but also those of malevolent ghosts. For that reason, amulets of various kinds were wrapped in red-dyed wool before being attached onto patients pestered by a ghost (Scurlock 2006: 266-268, 371-372, 425-426, 481-483, 484-486, 546).

Other texts claim that red combined with white had special therapeutic significance. Amuletic necklaces threaded on yarn of intertwined red and white color were deemed helpful to cure diseases induced by ghosts (Scurlock 2006: 60). Furthermore, in order to regain potency, a man was to secure white and red strands of wool, tie seven white and seven red knots before placing the yarn around his waist and recite three times an appropriate incantation (Biggs 1967: 27).

Finally, red was thought to purify from evil. When an individual had innocently offended a god, he could redeem himself by plucking a tuft of red wool and throwing the pieces in the fire while reciting a given incantation (Reiner 1958: 33).

## THE PARADIGM OF WRITING

A sign has a discreet meaning.

- a wedge = a measure of grain.

The size of signs denotes relative importance.

- a large wedge = a larger measure of grain
- a small wedge = a lesser measure of grain

Determinatives add specificity to signs

- the addition of one dot on a wedge = a measure of wheat

The relative position of the signs above or below on the face of a tablet conveys greater or lesser value

- a wedge placed above = a greater unit of grain (than that the one below)
- a wedge placed below = a lesser unit of grain (than that the one above)

The relative position of the signs right or left in a line denotes greater or lesser value

- A sign placed to the right has a greater value than the one to the left
- A sign placed to the left has a lesser value than the one to the right

Table 8.1.1. The paradigm of writing.

Although the texts are from a very different age, it is still plausible to assume that the Neolithic paintings were also apotropaic. It would explain the repeated concentration of color in the most vulnerable parts of the house such as openings and fireplaces, as well as the red lines painted in the lower of the walls around the rooms. It may also explain why graphic designs were traced in red on white. It is possible that, like the strands of intertwined red and white yarn, the red on white patterns were meant to combine two propitious colors for the strongest possible protection.

## THE COGNITIVE SIGNIFICANCE

The ancient Near East experienced two cognitive “revolutions”—the invention of (concrete) counting in the 8th millennium BC and that of writing ca. 3200 BC (Schmandt-Besserat 1992: 195-199). The Neolithic paintings of ‘Ain Ghazal, Bouqras, Umm Dabaghiyah, and Tell Halula may illustrate how these inventions influenced art (Schmandt-Besserat 2007).

Lines of animals, like the cranes of Bouqras and the donkeys of Umm Dabaghiyah, are hallmark compositions of preliterate Near Eastern art. This type of composition, showing the repetition of identical figures one behind the other, never occurs prior to the 7th millennium BC but becomes popular thereafter on all forms of art. The 7th millennium is also the time when counting was performed by matching the items to be counted with an

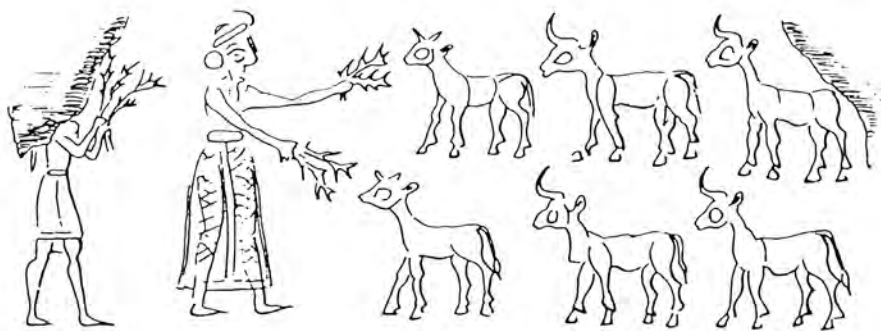


Fig. 8.1.7. Seal from Uruk, ca. 3000 BC, after Pierre Amiet (1980), *La Glyptique Mésopotamienne Archaique*. Paris: Editions du CNRS. Pl. 44, p. 640.

equal number of tokens. For example, a delivery of ten baskets of grain and ten jars of oil was computed by lining up ten cone-shaped tokens and ten ovoid tokens. Could the compositions of animal lines be inspired by the rows of counters used to count goods in one-to-one correspondence? In other words, I question whether the figures in Indian file may mark the advent of numeracy—assigning a number word to each item of a set.

It is a fact that the Neolithic paintings were not narrative. The donkeys of Umm Dabaghiyah never broke out from their line to show any interaction and there is no way to make sense of the Tell Halula females scattered in all directions. The zigzags and checkers at ‘Ain Ghazal perhaps symbolized concepts (like an arrow indicates direction in our own society) but they never told a story. In contrast, by emulating the paradigm of writing illustrated in Table 8.1.1, the art of the literate period developed the art of telling a story with pictures.

In the absence of complete well preserved painting of the early literate period, I switch to an Uruk seal to show how the paradigm of writing was applied to tie the various figures of a scene into a narrative composition (Fig. 8.1.7).

The seal presents two figures and six animals.

The size of figures show their relative importance.  
The larger figure is more important.

Status symbols (like determinatives) identify figures.  
The long kilt and headdress denotes a high priest.  
The short kilt denotes a common citizen.

Position is semantic.  
The priest is in front—he is the leader.  
The second figure is behind—he is the attendant.

Direction is semantic  
The priest and the attendant face the animals—both attend the herd.

The seal composition manipulates the size, status symbols, order, position and direction of the figures to presents a high priest and his attendant feeding a herd. In comparison, the Neolithic figures of Tell Halula are condemned to anonymity because all are shown in the same size and there are no status symbols to differentiates them. The women float aimlessly topsy-turvy because, before writing, location, position, direction bore no significance.

Art was affected by the two cognitive contributions of the Near East: the inventions of cardinal numbers and writing. After numeracy the art compositions glorified counting in one-to-one correspondence; after literacy, art could tell a story.

## CONCLUSION

Art is a faithful mirror of culture. In all their minimalism, the murals and floor paintings of ‘Ain Ghazal reveal important aspects of life in the Near Eastern Neolithic. The substantial investment of time and energy to produce pigments show the importance of color in the Neolithic community. The choice of bright white and deep red to decorate the houses denotes an esthetic predilection for vibrant colors and stark contrasts. The placement of paintings in strategic locations suggests that, like their Bronze Age descendants, the Neolithic communities had created a rich supernatural world filled with good and evil spirits. The sets of identical lines may epitomize counting in one-to-one correspondence with tokens. Finally, the inability of the pictures to tell a story is typical of preliterate art, before the use of status symbols and when size or the relative disposition of figures had no semantic value.

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Plate. 8.1.1. 'Ain Ghazal, red floor. Courtesy G. O. Rollefson.

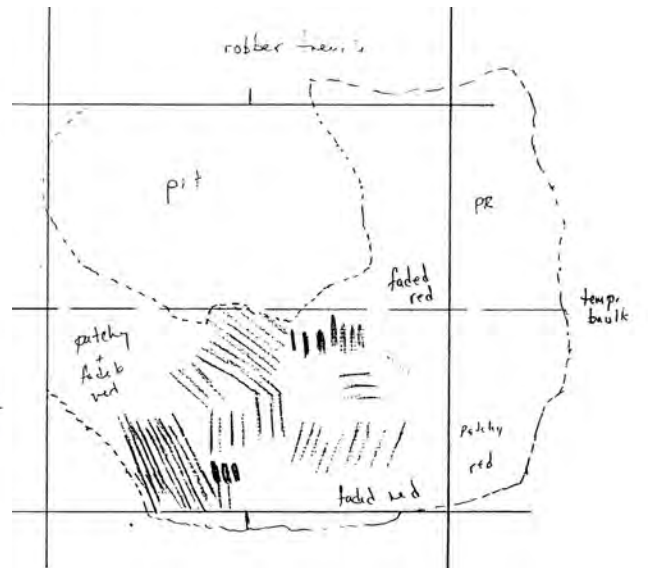
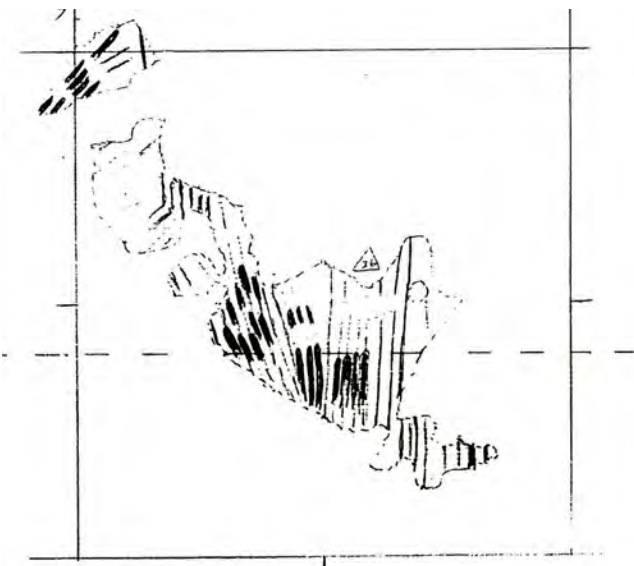
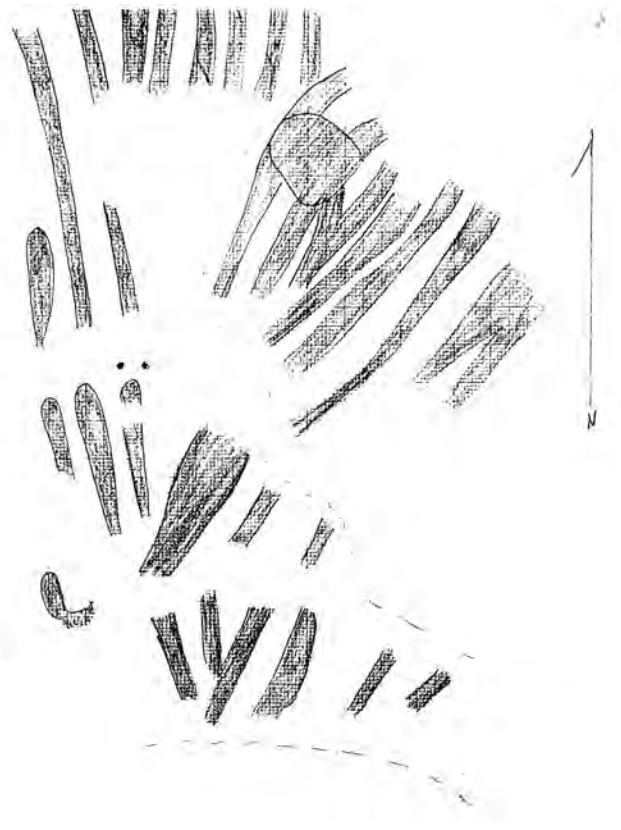


Plate. 8.1.2. a) 'Ain Ghazal, red painted design on a house floor in Square 3273. *Courtesy Gary O. Rollefson*; b) 'Ain Ghazal, detail of a painted floor design in Square 3273, locus 6. *Courtesy Dan Rahimi*; c) 'Ain Ghazal, detail of painted floor design in Square 3273, locus 39. *Courtesy Dan Rahimi*; d) 'Ain Ghazal, detail of a painted design in Square 3273, locus 40. *Courtesy D. Rahimi*.





Plate. 8.1.3. 'Ain Ghazal, painted design consisting of red circular strokes on a white background in Square 3285, locus 3.