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Mini Review

Time & the Advent of Writing

Patrice F Dassonville*

Author of the invention of time and space: origins, Definitions, France

Abstract

The advent of writing allows one to prove that time was invented.

Keywords: Concept; Cuneiform; Eternity

Abbreviations: BCE:Before Common Era; CE: Common Era

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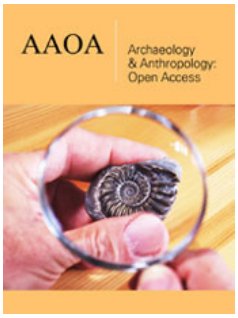

***Corresponding author:** Patrice FD, Author of the invention of time and space: origins, France

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Introduction

The advent of writing by Sumerians is approximately dated 3300 years BCE. It led to a socio-cultural upheaval that we still enjoy nowadays. During the XXth century, archaeology has uncovered a cuneiform sign that we claim to be the oldest trace of time. In addition, the technical analyse of the Sumerian approach would allow us to define the units of time and time itself.

The Advent of Writings

We do not know much about the signification of rock art of Upper Paleolithic and Neolithic, especially about signs such as parallel lines (Figure 1) or punctuation (Figure 2) [1]. These pictorial compositions are reminiscent of our contemporary abstract art. Anyway, over thirty thousand years ago, there were already talented artists and somehow, persevering researchers. The history of art and that of sciences, show that each generation has provided and continues to provide artists and scholars in all fields of arts and sciences.

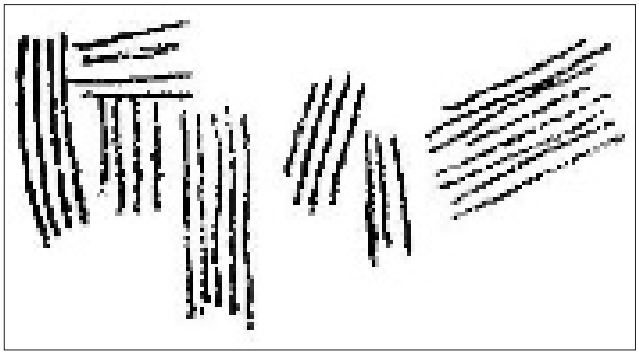

Figure 1: Engraved parallel lines: Cave of La Croze, Les Eyzies-de-Tayac, Dordogne (France) 21 000-20 000 BCE.

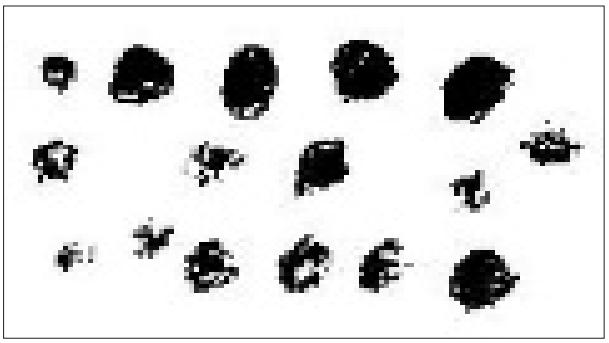

Figure 2: Punctuation: Cave of Marsoulas, Haute Garonne (France) c. 12,000 BCE, Cave of La Tête du Lion, Bidon, Ardèche, (France) c. 15,000 BCE, Cave Chauvet, Pont d'Arc, Ardèche (France) c. 33,000 BCE.

The ideographic writing uncovered in Sumer, lower Mesopotamia, is characterized by simplified representations of objects, stylized images of plants, animals. The geometrization of ideographic writing would give birth to pictographic writing c. 3300 BCE, and then to cuneiform writing from c. 2800 BCE [2].

The Egyptian writing has three different kinds:

a. The hieroglyphs which appeared c. 3100 BCE,

b. The hieratic writing which is a cursive writing resulting from simplification of hieroglyphs which appeared c. 2400 BCE and

c. The demotic writing which results from another simplification of hieratic and which was used by people from the 7th century BCE [2].

During his travel in Egypt, the Greek historian Herodotus (484-425) had some hieroglyphs translated, but unfortunately, he did not bring anything back: he would have originated Egyptology. Anyway, his exciting description of the country shows what Greece, Rome, the whole world, owe to ancient Egypt [3].

The Precursors of Time

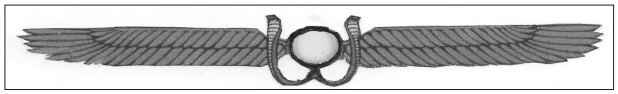

Figure 3: A hieroglyph symbolizing eternity.

The monarchs were convinced to possess a divine character. Their proximity with Gods made them immortal under certain conditions. In Egypt, these conditions are explained through hieroglyphic texts and widely described in the abundant iconography that are displayed inside mastabas. The refusal to die, the desire to continue living elsewhere, has led to the oldest precursor of time. On the composite hieroglyph, the winged Sun represents the solar God Re creator of living beings: it symbolizes the Sun's path, with the alternation of day and night, rebirth after death, hence the idea of eternity; two adjacent cobras protect from evil (Figure 3) [4]. The Gilgamesh Epic, a masterpiece dated approximately 1800 BCE, is engraved in cuneiform writing on eleven clay tablets which were uncovered in Lower Mesopotamia; one reads: "When Gods created humanity, it is death that they have reserved to men"; however the fabled sovereign Gilgamesh keeps claiming not to die for himself and his double Enkidu.

The Invention of Time

After reading numerous books about archaeology, the discovery of the excerpt of the book of Dr. Conteneau (Figure 4) was a great surprise : the third line of the board shows cuneiform signs meaning "month", arhu in Sumerian writing [5]. A clay tablet dated between 2800 and 2500 BCE uncovered in Sumer has this archaic cuneiform sign. The technical analysis of the approach of Sumerian scholars highlights how they invented the month:

a. They observed the movements of the Moon,

b. They noticed a repetition of its shape,

c. They called arhu (month), the separation between two identical shapes of the Moon,

d. In their everyday life, they started using arhu as a natural reference.

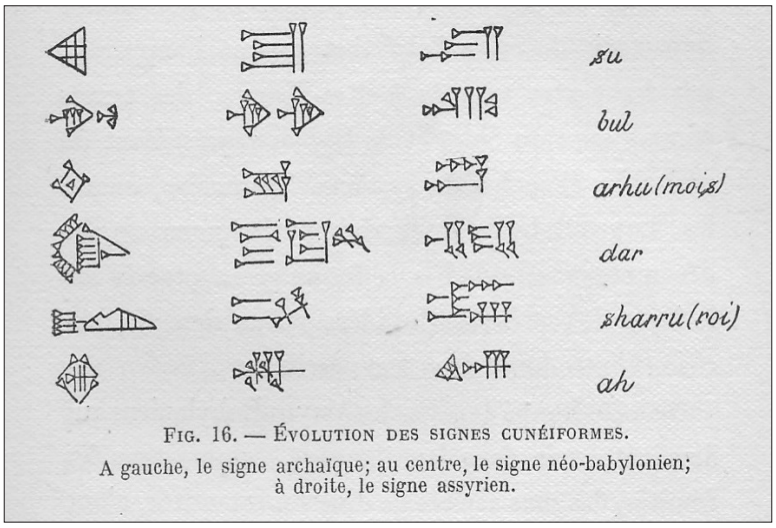

Fig. 16. — Évolution des signes cunéiformes.
A gauche, le signe archaïque; au centre, le signe néo-babylonien; à droite, le signe assyrien.

Figure 4: Month in cuneiform writing; third line, from left to right: archaic; neo-babylonian; Assyrian.

The Sumerians used arhu as a reference; nowadays we would say a "unit"; it being understood that they did not know the word "unit".

Differentiating between a phenomenon (such as a repetition) and a concept is prominent:

a. A phenomenon has physical properties thanks to which it is observable and measurable.

b. A concept has no physical properties because it is an invention of thought. It is neither observable, nor measurable.

We have explained elsewhere why time and space are neither observable, nor measurable, as such [6]. In addition, the above analysis of the Sumerian approach allows one to draft a definition of the month: "The month is a concept corresponding to what separates two identical and successive states of the Moon." At this stage, the use of the words "time" and "duration" is strictly prohibited, if these two words are not defined. For example, "The month is the duration of..." is an anachronism.

To be precise, arhu was corresponding to the lunar month, which is about twenty-nine and half days. Our modern months vary between twenty-eight and thirty-one days according to the calendar. In that time, the year was still unknown. The Greek biographer Plutarch (c. 46-c. 126) reminds the erratic values of the year, between one and ten months, depending on the country [7]. Hence the extravagant age reached by the biblical patriarchs; but above all, it proves that the year does not exist in nature, as well as time.

Conclusion

The gradual advent of writing would put an end to the "tempus mutum a literis", the silent age without writing, deplored by the Roman scholar Cicero (106-143). It allowed us to learn much more about our brilliant ancestors, mainly the Sumerians. Surprisingly, the first trace of time in history were never mentioned in any study : consequently, it was impossible to describe the nature and the properties of time, and ultimately there was no chance to prove that time was not a natural phenomenon. However, we can assert that arhu marks the invention of time; a major concept that would later overturn the understanding of the world, and as an exemplar, give birth to historical science.

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