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CROSS-CULTURAL ANALYSIS OF THE ART OF MEMORY: ARS MEMORIA, ITOLOCA AND XIUHÁMATL

Summary

The paper is a cross-cultural comparison of two models of human memory, namely the Art of Memory practiced by the ancient Greeks, and ItoLoca and Xiuhámatl, the memory systems of the Nahua / Aztec people of Pre-columbian Mesoamerica.

Keywords: Augmentation, codices, communication exchange, images, imagination, loci, memory, mimesis, myth, orality, perception, private, public, rethoric, scenarios, soul.

Introduction

Neither physical, nor situated at any specific location, memory is somehow intimately associated with our ability to learn and to, therefore, process and understand reality. A selective filter, memory has also been co-participant in our march through the ages. As we advanced from the pre-history, our tools no longer limited to survival utensils, we fashioned technologies such as writing. Although external to ourselves, these technologies supplemented, and extended our internal brain memory system.[1]

The concept of memory as a tool with techniques that can be learned and skillfully deployed to carve mental and ideological spaces, has a long history. In her seminal book, *The Art of Memory*, Frances Yates describes how the Greeks invented a memory system, based on the technique of impressing 'places' and 'images' on the mind.[2] Similarly, in *Los Antiguos Mexicanos a través de sus Crónicas y Pinturas*, the noted americanist Miguel León-Portilla cites an early colonial text that describes how the ability of the Indians to quickly memorize many things was directly related to their methods of painting.[3]

That this history is one that cuts across cultural borders is the scope of this essay, for in it I will present, and compare, historical descriptions pertaining to two ancient, and radically different, models of human memory. The memory models that will be discussed are the ancient Greek art of memory, *Ars Memoria*, and the memory system of the Nahua/Aztec [4] Indians of Mesoamerica, the *ItoLoca* and *Xiuhámatl*.

The sources

Most of the knowledge that exists regarding these memory models comes from secondary sources. They are in the form of descriptions found in works whose main topic of discussion is not the practice of memory augmentation itself. For example, the main source of information about the practice of *Ars Memoria* is *Ad Herenium*, an anonymous text compiled by a teacher of rhetoric in Rome circa 86-82 BC.⁵ In addition, both Cicero's *De Oratore* and Quintilian's *Instituto Oratoria* contain passages that describe the practice within the context of its

role in the discipline of rhetoric.[6]

In a similar manner, primary sources of the early colonial period include descriptions of how memory augmentation techniques were used among the Aztec Indians in Mesoamerica. These accounts, however, do not make reference to the activity itself, but rather, how it was used in the religious practices of the indigenous population. The *Historia Natural de las Cosas de la Nueva España*, an illustrated chronicle narrated by native informants during the second half of the 16th Century, is one source of information about how the system was used by the Aztec priestly caste to ensure that people correctly learned the divine songs. Collected between 1532 and 1597, the *Manuscrito de la Biblioteca* (also known as *Cantares Mexicanos*) is yet another source that illustrates how the *Xiuhámatl* and *ItoLoca* was practiced among the Aztecs.[7]

Ars Memoria, or the Art of Memory

Historical Background

Although probably derived from an earlier oral tradition, the invention of the art of memory is generally attributed to Simonides of Ceos, a pre-Socratic poet who lived circa 556-468 BC. The earliest description of the art, according to Yates, is a tiny section of a text dating back to 400 BC. In this fragment, which is known as the *Dialexeis*, images are deposited in memory upon images from the gods and ordinary men. For Yates, this use of archaically simple human figures to represent 'things' is an indication of how the art may have developed. That is, from the more simple mnemonic techniques into a practice that utilized complex concepts such as *imagines agentes* (or active images).

Yates further asserts that for Cicero, the invention rested "on Simonides discovery of the superiority of the sense of sight over the other senses." [8] Of added significance, is the fact that the comparison of poetry with painting is also fathered on Simonides.

The idea of an interconnection between poetry and painting has connotations that run throughout the history of philosophy and ideas in the classical world.

Although a thorough analysis of the evolution of this concept is beyond the scope of this essay, I will attempt to provide a brief synopsis of how Yates approaches this subject.

In Yates view, Aristotle proposes that images are the material of intellectual faculty and that it is even impossible "to think without a mental picture." [9] Like the imagination, memory is part of the soul: it is a collection of mental images not of things present, but rather, of things past.

Memory... belongs to the same part of the soul as the imagination; it is a collection of mental pictures from sense impression but with a time element added, for the mental images of memory are not from perception of things present but of things past.[10]

Although Plato also sees knowledge as derived from sense impressions, true knowledge, comes from fitting the imprints of these impressions on to the mold of a higher reality that antecedes our existence. The Platonic memory is organized in relation to this reality.[11] (One could almost say that it is defined by its functionality, or for what it is used.) Operating from this Platonist frame of reference, according to Yates, Cicero uses elements of rhetoric, memory, and *inventio* to prove the divinity of the soul.

The soul's remarkable power of remembering things and words is a proof of its divinity; so also is its power of invention, not now in the sense of inventing the arguments or

things in a speech, but in the general sense of discovery. The things over which Cicero ranges as inventions represent a history of human civilization from the most primitive to the most highly developed.[12]

The development of the art is thus seen as parallel to the development of more highly organized society.

Description of Ars Memoria

"Very singular is the art of this invisible art of memory." [13] According to Ad Herennium, there are two fundamental kinds of memory. Engrafted in our minds, natural memory, is born with our thoughts. The other kind, artificial memory, is strengthened and confirmed by training. All the classical sources that describe art of memory, stress the primacy of images.[14]

The artificial memory is established from places and images (Constat igitur artificiosa memoris ex locis et imaginibus), the stock definition to be forever repeated down the ages.[15]

In order to make use of the artificial memory, the orator (or the student of rhetoric) would assemble a collection of a large number of places, or loci. Arranged to form a series, this visual, mental structure, would also have to be remembered in order, since this would facilitate movement backwards and forwards from any of the locus, or places. Into these receptacles, images (or simulacra) of what was to be remembered, would be placed.[16]

Because it could be used again and again, the formation of the loci, was considered to be of prime importance. Images placed in loci that were no longer used, would fade. However, the same loci could be used again to store new things. For loci were like wax tablets which remain when what is written on them has been effaced and are ready to be written again "[17]

Detailed instructions advised on the best ways to go about creating a loci. Deserted and solitary places were favored, as "crowds of passing people tend to weaken the impressions." [18] Thus, a student intent on developing precise, and well defined loci, would select a solitary spot in which to memorize places. To avoid confusion, it was recommended that the memory loci, should not resemble each other too much.

They should be of moderate size, not too large for this renders the images placed on them vague, and not too small for then an arrangement of images will be overcrowded. They must not be too brightly lit for then images placed on them will glitter and dazzle; nor must they be too dark or the shadows will obscure the images.[19]

To facilitate recalling the order of the loci, a certain set of these could be punctuated with a distinguishing mark. The fifth locus in a series, for example, could be marked by a golden hand followed by the image of an acquaintance whose name was Decimus, on the tenth.

Two kinds of images were used in Ars Memoria, "one for 'things' (res), the other for 'words' (verba)." [20] Similarly, there were two kinds of artificial memory. Memoria rerum was used when the need was to recall every single word in the right order. However, when the objective was to remember the order of the motions and arguments (or 'things') in a speech, Memoria verborum was the preferred method.

In other words, 'things' could be regarded as the topic of the speech being memorized, but 'words' represented the language used to present the subject matter. Since the ideal (as defined by Cicero) was "a firm perception in the soul of both things and words", can we infer thereby that the existence of

this typology is somehow related to the application of the art in the discipline of rhetoric? [21] Also, given the importance of visual representation, how did one go about deciding what images to use? The reasons offered by the anonymous author of Ad Herennium make this one of the most curious aspects in the study of the art. These reasons provide evidence of an awareness of the psychological impact of images, the role these play in the arousal of emotions, and how this can be manipulated to create memorable imprints.

When we see in every day life things that are petty, ordinary and banal, we generally fail to remember them, because the mind is not being stirred by anything novel or marvelous. We ought, then, to set up images of a kind that can adhere longest in memory. And we shall do so if we establish similitudes as striking as possible; if we set up images that are not many or vague but active...[22]

According to this passage, sensory perception, and specifically the sense of sight, could be harnessed. This was done through the use of visual representations of extremes that are easily remembered, and similitudes, or analogies, fashioned from as striking a nature as possible. These representations would then be methodically applied in the creation of mental scenarios. These scenarios served the purpose of adding an element of narrative to the mental structure created.

Because of the personal (and private) nature of the narrative, it is possible that these assemblages also created a cognitive associations that also had an emotional component. This aspect not only reinforced the associative links created, but also, may have provided an efficient mechanism for their retrieval.

Places are chosen and marked with the utmost possible variety, as a spacious house divided into a number of rooms... Then what has been written down, or thought of, is noted by a sign to remind of it... These signs are then arranged as follows. The first notion is placed, as it were, in the forecourt; the second let us say in the atrium; the remainder are placed in order all around the impluvium, and committed not only to bedrooms and parlours, but even to statues and the like. This done, when it is required to revive the memory, one begins from the first place, to run through all... [23]

One could argue that in Ars Memoria, memory was not seen as a passive repository, but rather, as an active, perception-oriented process. Encrypted messages, these scenarios were restrained in a fluid, linear-like, mental structure. Like malleable wax tablets whose contents are softly effaced with the stroke of the stylus, they existed solely in the mind's eye and could only be deciphered by their author.

ItoLoca and Xiuhamatl: The Art of Memory among the Aztecs

Historical Background

Because of the destruction of a large part of the cultural heritage, the sources that can inform us about the nature of this system and how it was used, are few. A large part of the data comes to us in the form of descriptions by native informants. These accounts were compiled by religious personnel in the aftermath of the fall of Tenochtitlán-México. As such they are tinted by a European perspective. In spite of these limitations, the sources that are extant can provide us with highlights of how this system may have developed and operated.

It was the tlamatime (or wise men) who implanted in the educational centers a system whose purpose was to fixate in the memory of the students a whole series of texts and commentaries. In this system, oral tradition in the form of songs

was used to reinforce a historical narrative that was also inscribed in painted codices. (According to 16th Century chroniclers, in the Calmécacs, as the centers were called, the sons of the Aztec nobility were literally taught "to sing their paintings.")^[24] Furthermore, the responsibility of the accurate transmission and teaching of the songs, not only to students but to the population at large, was the task of a special category of priests. They were called *tlapizcatzin*, which literally means 'conservator.'^[25]

These teachings were reinforced through their use in rituals. Many of these rituals were ceremonies. These periodically punctuated the individual's development within a society that was devoted to the enactment of collective, and theatrical, representations of a religious nature. Sometimes recalling past events, at other times to honor a deity, the hymns and songs were a significant component of these celebrations. Often though, they were also performed just to pass time and, therefore, played an important role in everyday life.

*The conservator
took care of the songs of the gods...
So that nobody erred,
he took care
of teaching the people
in all the neighborhoods the divine songs.*^[26]

Where are the origins of these narratives? Also of particular interest is their use of the oral narrative in combination with material of a graphic nature. Factual information about how the Aztecs developed a way to transfer information through the use of oral transmission is not abundant and much of the knowledge that has reached us is shrouded in the veil of mythology. There are, however, sources that can be historically corroborated.

In these historical sources there exists, according to León-Portilla, a double orientation. That is to say, there are the texts that extoll the value of the traditions and institutions of antiquity as rooted in a Toltec past. Then there are the texts of the historians of Mexico-Tenochtitlan, who intent on suppressing the history of other groups in the area, burned the old codices and made use of the *Itoloca* and *Xiuhámatl* to produce a new historical conscience.

This new version of history was instituted in the year 1426 AD, during the reign of Itzcoatl, the fourth tlatoni (or ruler) of the Aztec nation. According to the sources, the idea was conceived and implemented by Tlacáélel, a historical personage who became the special advisor to three of the Aztec rulers.^[27]

Proclaimed and transmitted through the painted books and poems learned in the education centers, this philosophy was strengthened until it became the root of Mexico/Tenochtitlan.^[28]

This strategy served the function, according to León-Portilla, of legitimizing the rule of the Aztecs over the other groups in the area and introduced the idea of the Aztec nation as the people of the sun, with the supreme mission of war. It also served to promote a re-interpretation of the mythology. In the resulting new version the existence of the present world was explained as one that followed a series of successive Ages that had all come to a catastrophic end. Within this worldview, the present Age, or Fifth Sun, would also come to an end. The only ones who could prevent this from happening were, of course, the Aztecs.

Description of Itoloca and Xiuhamatl

As opposed to the private, individual activity of *Ars Memoria*,

the art of memory, as practiced by the Aztecs, was a collective and public-oriented endeavor. If *Ars Memoria* was a solitary, mental practice that placed emphasis on the mimetic ability of sight to purvey true knowledge, the Aztec art of memory involved a process of communication exchange that did not recognize a separation between word and image.^[29]

In the memory system of the Aztecs, two components were utilized simultaneously. The first, which was also the oldest technique, was *Itoloca*, or what is said about someone or something.^[30] It consisted of the systematic use of oral narratives, that were repeated, not only in the educational centers and religious institutions, but also at home, in everyday life, and on special occasions.

The content of these oral narratives included myths, descriptions of ancient lands, of long pilgrimages, and of the way of life of extraordinary beings. The myth of Tamoanchan, that tells the story of the arrival and departure of the wise ones who brought with them the knowledge of the codices, the arts and music, is an example of *Itoloca*.^[31]

Complementary to *Itoloca*, was *Xiuhámatl* or 'record of the years.' This technique made use of diverse modes of graphic representation to preserve a knowledge-base that corresponded to the materials contained in the oral narratives. The information was recorded in 'codices' or 'painted books', that were crafted in the manner of folded screens made of amate paper. Unscrolling one of these devices would reveal pictorial material designed to operate at diverse cognitive levels. Since the act of reciting also concurred with that one of unfolding the codice, a vocabulary of gestures may have also been available to the reader. Through the use of these techniques it was possible to produce an experience that "vaulted a barrier that European senses are normally unable to cross."^[32] As is better expressed by a *cuicapicqui* (or Nahuatl poet) himself

*I sing the paintings from the book
As I am unfolding it
I am a flowery papagallo,
I make the codices speak,
in the interior of the house of paintings.*^[33]

Since the content of the recitation corresponded to the one inscribed in the painted books, it could be argued that the graphic representations of the codices reflected and were an extension of the minds of their creators.^[34] Although a self-reflective quality may have been present (as we have already noted the Aztecs did possess the notion of a historical consciousness), there was no sense of estrangement in the act of recording by the painters.^[35] This is because for the Aztecs, an "image rendered visible the very essence of things because it was an extension of that essence."^[36]

A glance through the types of glyphs used as recording devices in the *Xiuhámats*, reveals the complexity of the system of representation employed. There were five basic types: Numeral glyphs to indicate quantity; calendrical to depict time; pictographic to represent objects; ideographic to synthesize ideas and concepts; and phonetic to replay sounds and syllables that were usually associated to places and people.

In the context of this essay, the use of the calendrical glyphs is of particular interest. Initially their role may have been strictly pictographic. However, through their implementation in the *tonalpohualli* (or divinatory calendar system) we can approximate a knowledge of how their function evolved to include complex ideographic aspects.^[37] For example, each day was associated with particular concepts that bestowed on it a special meaning, and also distinguished it from any other. In addition, four of the twenty glyphs that were used to represent days, were also employed to depict the four thirteen-year

groups that made up a fifty-two year cycle of collective and ritual significance to Aztec cosmology.[38] Symbolically, these four glyphs, were also associated to the four cardinal points.

That there existed an intricate correspondence between the system of representation and the system of time keeping can be discerned from the fact that similar structural arrangements were used in the design of the *Xiuhámatl*s where the chronicles and historical events are encoded.[39] An example that illustrates this is the so-called *Codex Cruz*. This codice "explains the history of three cycles (of fifty two years each) as was customary in that land." [40]

The relationship between the diverse devices utilized, however, was not linear and should not be misconstrued as being a type of illustration-as-support to narrative characteristic of Western artifacts.

Page layout, the scale of the symbols, the position they occupy in relation to one another, and the way that they are grouped together... determine both the direction in which the codex is to be read and its ultimate meaning. In addition, the colors filling the spaces, delineated by the thick regular strokes... constituted chromatic variations that influenced meaning.[41]

As already mentioned, representation for the Aztecs, was not of a mimetic nature. Whether pictographic or ideographics, the glyphs were not produced as imitations, or representations, of something.[42] Endowed with a profound symbolism, they were meant to be the actual thing. The use of color, by the *tlaculos*, for example, had distinct connotations: Yellow used in a human figure indicated the feminine sex; blue used in vestments denoted the South and pointed to a relationship with aspects of the god *Quetzalcoatl*; black and red represented writing and knowledge.[43]

It could be argued that through the simultaneous use of *Itoloca* and *Xiuhámatl* the Aztecs developed a memory system that cannot be explained as based purely on inscription techniques, or painting, or oral transmission. It used all of these elements. Much like *Ars Memoria*, it relied heavily on the use of the senses.

Decoding the paintings originally required a two-fold operation; while the eye scanned the images, the reader uttered words inspired by the oral tradition. Sound and image apparently complemented one another, without the one being a version of the other. Paintings were thus 'made' to speak and, in turn, 'paintings reinforced and refreshed oral memory.[44]

That these methods represented something more than the mere use of oral tradition may be evident in their appropriation and subsequent use by the Spanish clergy seeking to indoctrinate the native population.[45] Quoting Fray Jerónimo Mendieta, León-Portilla reports how the missionaries "used a way of preaching very convenient to the Indians, as it was similar to the system that they had of dealing with everything through painting." [46]

The memory system of the Aztecs was a collective performance that occurred within the space of the public sphere. Its continuous enactment was reinforced and ensured through preservation via a particular system of codification that utilized graphics. As a whole, the system made use of the spoken word, bodily gestures, and the paintbrush of the artist who recorded the narratives on the paper surface for preservation.

With a mythological narrative that had been modified to produce a specific interpretation, the practice of *Itoloca* and *Xiuhámatl* relied on the interaction of specialized sectors and highly skilled craftsmen in the society. Like the folded screen

that, upon losing its mechanisms of support collapses, with the onslaught of the invasion the memory system of the Aztecs suffered the same fate of the society who created it.

Conclusion

Throughout this essay, I have attempted to show how two different pre-industrial cultures fashioned distinct methodologies to create conceptual spaces and transmission mechanisms that allowed them to preserve their intellectual and cultural heritage

The Aztec system of *Itoloca* and *Xiuhámatl* involved an interaction between oral transmission and information coded in a pictorial manner. Its conceptual configuration was very much dependent on collective, ritual, re-enactments (or performances). These were regulated by the state through the education system controlled by a priestly caste.

Ars Memoria, as practiced in the discipline of rhetoric, was a solitary and private activity. It used a methodology that relied on the use of visual representations of mimetic nature, and its importance declined as writing became the preferred way to preserve the knowledge of the past. It may be of interest to explore whether its diverse aspects have been sublimated into Western culture

Bibliography

Bolter, Jay David, *Writing Space, The Computer, Hypertext and the History of Writing* (Hillsdale, New Jersey: Lawrence Erlbaum Assoc., 1991)

Clendinnen, Inga, *The Aztecs, An Interpretation* (Cambridge, UK: Oxford University Press, 1994)

Gebauer, Gunter and Wulf Christopher, *Mimesis: Culture, Art and Society* (Berkeley, CA: University of California Press, 1995)

Gruzinski, Serge, *Painting the Conquest. The Mexican Indians and the European Renaissance* (Paris, France: Flammarion, 1992).

León-Portillo, Miguel, *Los Antiguos Mexicanos a través de sus Crónicas y Pinturas* (Mexico City: Fondo de Cultura Económica, 1977).

Morales-Padrón, Francisco, *Atlas Histórico Cultural de América* (Las Palmas de Gran Canaria, Spain: Comisión Cultural Quinto Centenario, 1988) Vol 1

Rose, Steven, *The Making of Memory: From Molecules to Mind* (London, UK: Bantam Books, 1992).

Yates, Frances A, *The Art Memory* (Middlesex, England: Penguin Books, Ltd, 1978)

1. Rose, Steven, *The Making of Memory: From Molecules to Mind*, p. 60
2. Yates, Frances, *The Art of Memory*, p 11
3. León-Portilla, Miguel, *Los Antiguos Mexicanos a través de sus Crónicas y Cantares*, p. 69
4. The Aztecs were a Nahuatl tribe. Their name refers to their origins in Axtlatlan (north of the lake Xucumanhuc) In the year 1111 AD they migrated into the valley of Mexico. By 1275 AD they had infiltrated and situated themselves in Chapultepec. Guided by their leader Tenoch, in 1345 AD, they founded the city of Tenochtitlan. Morales-Padrón, Francisco, *Atlas Histórico y Cultural de América*, Vol. 1, p. 38
5. Yates, Frances, p. 20.
6. *Ibid* p. 19
7. León-Portilla, Miguel, p. 71
8. Yates, Frances, p. 43
9. Yates, Frances, p. 47
10. Yates, Frances, p. 33.
11. *Ibid*, p. 51.
12. *Ibid*, p. 59.
13. *Ibid*, p. 32.
14. *Ibid*, p. 19.
15. Yates, Frances, p. 22
16. *Ibid*, pp. 22-23.
17. *Ibid* p. 23
18. *Ibid*
19. *Ibid*
20. Yates, p. 24
21. *Ibid*

22. Ibid , p 25
23. Yates, Frances, pp 37-38
24. León-Portilla, Miguel, p. 66 This information is confirmed by other, purely indigenous sources, such as the Anales de Cuauhtitlán
25. Ibid p 70.
26. Ibid p 71
27. León-Portilla, Miguel, pp 92-97
28. Ibid , p. 95
29. The Platonic definition of mimesis refers to the representation of something on the assumption that the latter is similar to the true. The artist creates neither by seeing the Idea, nor from a more precise substantive knowledge of the object. The artist produces nothing but phenomena. These can be produced easily and quickly, on the basis of no substantive knowledge, by someone holding a mirror. In Gerbauer Gunter and Christopher Wulf, Mimesis Culture, Art and Society , pp. 31-44.
30. León-Portilla, Miguel, p 54
31. Ibid., pp 51-53 The myth of Tamoanchan, narrates the story of how, after the gods had left, four old and wise men rediscovered the way to preserve the past. This included the count of destiny, the record of the years, the book of dreams and the red and black ink of the codices
32. Grunzinski, Serge, Painting the Conquest The Mexican Indians and the European Renaissance, p 14
33. Ms. Cantares Mexicanos, in León-Portilla Los Antiguos Mexicanos. , p 66
34. It has been said "writing is a way of knowing your own mind, as you see manifestations of your mind externalized on the page " In Bolter, Jay David, Writing Space , p 213
35. A similar situation may have existed in relation to the sacrificial practices of the Aztecs, so that "what appeared to the Europeans as a simple human sacrifice was nothing other than the death of a god that had fragmented itself prior to becoming whole " Grunzinski, Serge, p 77.
36. Grunzinski, Serge, p 14
37. The Nahua system of representation evolved from a pictographic stage, to one that used ideographic glyphs to represent symbolic concepts. They possessed adequate ideograms to represent metaphysical concepts such as god, movement, life. In León-Portilla, Miguel, p 61
38. The fifty two year cycle (also called Bundle of Years) had deep significance in Aztec society. It served as enclosure for a complete, and simultaneous round of the two calendar systems utilized, namely the Tonalpohualli, and the Xiuhpohualli, or solar calendar. This event coincided with the passage of the Pleiades. It was also related to the length of the migration of the Aztecs to the city of Tenochtitlan. Clendinnen, Inga, The Aztecs, An Interpretation, p.24
39. León-Portilla, Miguel, p. 59
40. Ibid
41. Grunzinski, Serge, p 15.
42. Gebauer, Gunter and Wulf, Christopher, p 34
43. León-Portilla, Miguel, p 61
44. Grunzinski, Serge, p 15
45. León-Portilla, Miguel, p. 68
46. Ibid
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