



## Symbol of Maya Dentistry

### *Símbolo de la Odontología Maya*

Rodrigo Villalobos Jiménez\*

The symbol that nationally and internationally identifies Mexican dentistry was initially described by Dr. Samuel Fastlicht, who observed it in a fragment of a polychrome mural known as «Earthly paradise». Said mural is located in Tepantitla, Teotihuacan, and possibly represents the activity of polishing teeth executed by a shaman-dentist; it is a worldwide, widespread image.

In another context, in a different location in time and space, and associated to a culture different from the Teotihuacan culture, in this editorial we will endeavor to study an ancient symbol of Maya dentistry.

A magnificent piece of pre-Colombian art, a pendant made of serpentine jade with Maya writing engravings can be found amongst the great treasures displayed in the Jade Museum (*Museo del Jade*), located in the *Instituto Nacional de Seguros* (National Insurance Institute).

This piece of art was described by the renowned epigraphist and ethnographer, Cambridge University graduate, British archeologist, Eric Thompson, who also was attached to Chicago Natural History Field Museum (USA). He was considered one of the paramount experts of Maya culture during the first half of the XX the century. It was cited by Don Luis Ferrero<sup>1</sup> who showed and described the image of a jade pendant, with glyphs arranged in a cartridge formation, with textual description: «The glyph on the left was interpreted as «bat face», the glyph on the right was named by J Eric Thomson «tooth ache glyph» and was interpreted as a vulture with a bandage to hook it up to the moon». It is worth mentioning that provenance is from Bagaces, Guanacaste at the North Pacific section of Costa Rica, Central America.

Countless researchers have arduously worked for many years so as to meet the challenge of deciphering Mesoamerican pre-Colombian writings such as the Olmec, Zapotec, Epi-Olmec, Izapa, Nuiñe Mixtec, Mexico and Maya.

The starting point for such arduous labor was the text «*Relación de las cosas de Yucatán*» (A narrative of Yucatan-related matters) written by bishop Fray

Diego de Landa, who was General Officer of the Inquisition. He destroyed great amounts of pre-Hispanic cultural legacy at the stake, nevertheless, he achieved a detailed description of the state of the region from 1549 until 1579. He completed a general description of native life at that time; he additionally drafted designs of the written linguistic structures, which were the basis for the future Maya writing deciphering project.

Yuri Knórozov, Moscow University, Ukrainian Maya ethnographer, played a key role in the process of Maya writing deciphering. In 1952, he published a text called «*Drevniaia Pis Mennost Tsentralnoi Amerika*» («Central American ancient writings»). In that text, he sustained that the so-called «Landa alphabet» was composed of syllables rather than alphabetical symbols. Knórozov improved his deciphering technique in his 1963 publication of «The writings of the Maya Indians». In his 1975 publication of «Maya hieroglyphic manuscripts» he published translations of Maya manuscripts. In the decade of the sixties, progresses revealed dynastic records of Maya rulers. At the beginnings of the 1980's it was revealed that most previously unknown symbols formed a syllabary; from that moment onwards, advances in Maya writing interpretation achieved greater impetus.

During the realm of the Cold War, rivalry was established between Thompson and Knórozov, in addition to differences in philosophical and practical approach to glyph interpretation. Thompson emphasized image interpretation and Knórozov favored syllabic approach. Tatiana Proskouriakoff, Siberian Russian renowned archeologist, epigrapher and illustrator and academically trained in the USA, achieved an intelligent middle ground: she advocated that Maya writings are composed of:

\* Dean of the School of Dentistry at the Costa Rica Latin University.

- Phonetic signs based on syllables.
- Ideograms or logograms representing concepts.
- Morphemes or determinatives which modify the meaning of a word.

Proskouriakoff conducted a meticulous and correct interpretation of countless Maya stone stelas and writings, which proposed a relationship with images of the rulers and chronicles located within the time of the Maya calendar, with narration of inscriptions and literal reports of concrete facts, with chronological sequences and spatial location of the development of Maya culture in several places. In her book «Maya history» edited by the University of Texas at Austin, 1993 ISBN 0-292-76600-9, in pages 44 and 45, she uses the term «bloodletting» (equivalent for us to the left figure on the glyph present at the Jade Museum in Costa Rica, which Thomson had called «bat man») A similar image can be found in stela located at the Gran Plaza de Copan (Copan Main Place) Honduras (Figure 1).

Harri Kettunen and Christophe Helmke, wrote «Introduction to Maya hieroglyphics», later translated into Spanish in 2010 by Verónica Amellali Vázquez López and Juan Ignacio Cases Martín. In pages 89 and 133 it reads: «In general a dependent (linked) MORPHEME can be aggregated to a SUBJECT or ROOT, to form a complex and different word (for example the word unusable, prefix is un- and suffix is -ble). In Maya writings, affixes can also function

as phonetic complements, or, in the case of infixes, as full words. Differing from standardized linguistic conventions and due to the nature of the writing system, in Maya epigraphy, affixes are subdivided into prefixes (before) super-fixes (on top), sub-fixes (underneath) post-fixes (afterwards) and in-fixes (within)».

In the present case, the pronominal personal/possessive affix is: u- u- «he, her, that, his» (before consonants and vowels).

Considering «bloodletting» as bleeding, and with addition of affix u, it could be interpreted as «he who produces bleeding».

Proskouriakoff also mentioned in her books the «toothache» glyph, found in a Maya stela in the city of Piedras Negras, located at the west of Peten in Sierra Lacandon, Guatemala, in that stela, the toothache glyph is represented, and it is associated to the ascension to power of a ruler. It also mentions that it is present at the Yaxchilan archeological site (Chiapas, Mexico) as the Jaguar King ascension.

John Montgomery, in his «Dictionary of Maya hieroglyphs» 2006, second edition, Hippocrene Books New York, ISBN 0-7818-0862-6, page 119, presented and translated the toothache glyph as «ascension» «emerging» and thus confirms the use of the «toothache glyph» for important events.

Within the cultural tradition of the Great Nicoya, base on the chorotega-mangue ethnic group, with a vision that could be generalized to the rest of Mesoamerica, the shaman was able to transform into whatever animal was deemed necessary to exert his function in the religious-magical ritual, as an influence of nahualism in which he generally used jade ornaments, animal furs, bird feathers and masks. In the Nicoya tribes religious traditions, jaguars, crocodiles, bats, snakes and *guacamayas* (macaws) were considered sacred animals.

There is a close association between jade and magic-medicinal uses. For example, nephrite, the other jade variety, along with jadeite (unavailable in Mesoamerica) takes its name from «kidney stone», which is a term given by ancient Romans in Europe, related to nephrology (nephrite), it is thought due to its healing properties, natives used this stone as a amulet (charm) against kidney diseases.

In the ancient serpentine jade piece (Figure 2) we are analyzing, the following characteristics can be observed:

- The glyph is enclosed within three circles which define direct association between both images shaman-dentist and his patient.



Author: Dr. Silvia Villalobos Sancho.

**Figure 1.** India ink drawing based on original image.



Author: Dr. Rodrigo Villalobos Jiménez.

**Figure 2.** Jade piece photograph.

- Thomson describes the image on the left as the bat-man. Proskouriakoff translates it as the bleeding man. It could well be considered that a possible interpretation would be that of a shaman reaching out to the patient. Moreover, it presents an almost friendly, positive facial expression.
- The image on the right is described as «a vulture with a dressing tied to the head». It is the toothache glyph, a patient with the mien of pain or distress in his facial expression.
- Located between both hieroglyphs and close to the patient's face the partial representation of a flower with petals can be observed. This could well be the representation of a medicinal plant used for dental treatment as a sedative-analgesic-narcotic. In Mesoamerica, there are great amounts of medicinal plants with very active alkaloids and a long-standing tradition of their use among the population.
- The studied piece of jade counts with three perforations and was used as a pendant which could herald the position of the person wearing it.

It must be considered that possibly, the glyph in this image be the representation of a process of dental care, since in Mesoamerican cultures there is ample evidence of multiple dental treatments, wears, «mutilations» and dental restorations. In the whole

Maya world, from the south of Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, including the Northern part of Costa Rica, in their respective museums, there is a great amount of tangible evidence showing dental and bone remains, of treatments performed in subjects; these treatments purported the aim of healing, improving esthetics or identifying hierarchy.

In the Popol Vuh, the sacred Maya book, written in Quiche language, and which narrates the creation of the world, there is a depiction of the wondrous twins, Junajpu and Ixb'alanke, who attack their rival Wuqub'K'aqix with their cerbatanas (blowguns) and they «dislocate his jaw». After this, the twins accompany their grandparents who are shaman-healers, and are described as «those subjects who have the trade of extracting the worm that causes toothache». The aforementioned offer to alleviate the pain of the wounded man. Wuqub'K'aqix manifests that «teeth hurt night and day, and he can't eat or sleep».

«Dentists» are described as people with graying hair and hunched body. The old man called SakiNimAk' and the old woman called SaqiNimaTz'l'. manifest the following: «we are looking for work because we are healers, these are our grandchildren and we feed them what we can get». They offer to dispel the pain by «eliminating teeth and setting others in their place». They achieved this by placing white corn kernels to replace extracted teeth, which thus lost their shine, power and strength and this allowed the twins to defeat the enemy, according to the designs of Heaven's Heart which is the name given to God in Maya culture.

In Popol Vuh there are also references to the use of insignia to identify subjects according to their rank and trade. When considering that this piece of jade possesses three perforations in order to be worn as a necklace, it can be equated to the modern illuminated signs that dentists hang in their offices to advertise and offer dental health, professional services, or the identification tag that dentists wear on their coats to provide identification in hospitals or universities.

There are many questions still to be answered. Could there be any relationship between the Teotihuacan Mexican symbol of dentistry and the Maya dentistry sign in Costa Rica?

For the time being, while these questions are answered, we have the satisfaction of stating that globally, Mesoamerican dentistry finds in this artistic representation an example of meticulous detail; it is delicately achieved without the help of modern tools,

and executed, by an unknown master artisan, in an extremely hard surface such as jade. We might not know the artisan's name, but we can recognize his skill and ability in an ancestral image which indicates and highlights the exercise of a profession dedicated to solve oral health situations which have plighted humanity from immemorial times.

## REFERENCES

1. Ferrero L. *Costa Rica precolombina*. Costa Rica: Editorial Costa Rica; 1979. p. 87.

Mailing address:

**Rodrigo Villalobos Jiménez**

E-mail: rodrigovill@gmail.com