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CONTRIBUTIONS

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EDITORIAL OFFICE:

Department of New World Archaeology
Institute of Archaeology
Jagiellonian University
Golebia 11 Street
31-007 Krakow
Poland
Telephone: +48 126631595

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IN NEW WORLD ARCHAEOLOGY**

Volume 12

To the memory of William I. Woods (1947-2015)

Kraków 2019

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THE ROLE OF MAIZE AND THE THEORETICAL APPROACHES OF ARCHAEOLOGY TO THE FOOD RESOURCES IN THE ANCIENT MAYA CULTURE¹

MICHAŁ GILEWSKI

Centre for Pre-Columbian Studies, University of Warsaw. E-mail: soniczny@wp.pl

Abstract

Several theoretical approaches exist for the study of ancient Maya cultures. In the beginning, only limited information was available for these cultures and the early portrayals were greatly influenced by European concepts of antiquity. After this period of Early Maya archaeology, however, the newly-developed processual archaeology was applied. Processualist theory focused on understanding the process of cultural change and relating it to environmental adaptation. Soon after its inception, criticism of this approach led to the emergence of post-processual archaeology, which stressed the importance of pre-Columbian Maya symbolism. In this case, the popularity of post-processualism was spearheaded by the decipherment of Maya glyphs and new information supporting cultural continuities between ancient and past Maya groups.

Problems related to both approaches are well exemplified by the meaning of maize in the ancient Maya culture. Processual archaeology treats maize as merely a food source, while post-processualism regards maize as one of the most important symbols of the ancient Maya, a plant with a special status. Thus, research on ancient Maya subsistence and the meaning of maize in ancient belief systems have been based on interpretations that were constructed from a single perspective. However, to fully understand the role of maize in the Maya culture, we must integrate and apply different perspectives, multidisciplinary approaches and methodological dialectics. It is postulated that, in the future, past approaches will be complimented by newly retrieved information thanks to a new paradigm called symmetric anthropology.

Keywords: Maya, archaeological theory, processual archaeology, post-processual archaeology, symmetric anthropology, Amerindian perspectivism

Resumen

En las consideraciones arqueológicas sobre las culturas mayas antiguas es visible la coexistencia de una serie de orientaciones científicas fundamentales. Al principio se disponía de información escasa acerca de dichas culturas y su imagen venía condicionada en gran medida por los conceptos de la antigüedad europeos. Después de aquel primer período, empieza a influir en el desarrollo de la arqueología de los mayas el paradigma de la arqueología procesual que pone énfasis en el conocimiento del proceso de cambio cultural en relación con la adaptación a las condiciones ambientales. Poco después, partiendo de la crítica del procesualismo, surge la arqueología postprocesual que empieza a insistir en el conocimiento de la dimensión simbólica de las culturas pasadas. En el caso de la investigación de la cultura maya este enfoque gana popularidad con los avances en el desciframiento de la escritura maya y la aparición de nuevos datos que demuestran la continuidad cultural entre los mayas antiguos y los grupos contemporáneos descendientes de ellos.

¹ The following article presents a fragment of author's upcoming PhD dissertation.

Los problemas relacionados con los dos enfoques se ven perfectamente al analizar los estudios dedicados a la importancia del maíz entre los mayas antiguos. Para la arqueología procesual, el maíz no pasa de ser la base de la alimentación, para la postprocesual, es uno de los símbolos más importantes para los mayas antiguos, una planta que debía de poseer un significado particular. En la investigación del papel del maíz en la producción de los alimentos y su importancia en los sistemas de creencias e imaginación de la cultura maya, la interpretación no debe construirse solo en base a una de dichas perspectivas. Para reflejar de la manera más completa posible el papel del maíz en la cultura maya es necesario unir distintas perspectivas, aplicar un enfoque multidisciplinario y un dialectismo metodológico. Dentro de poco, los enfoques existentes al día de hoy se completarán con nueva información conseguida con la ayuda de un nuevo paradigma, la llamada antropología simétrica.

Palabras clave: teoría arqueológica, arqueología procesual, arqueología postprocesual, antropología simétrica, perspectivismo amerindio

INTRODUCTION

The history of research on pre-Columbian Maya agriculture has undergone a huge transformation. In this paper I will argue that in the beginning, almost nothing was known about the ancient food sources of the Maya and the very first archaeological contributions inevitably laid the fundamentals for scientific debate and now in more recent times, important new discoveries have greatly enhanced our perspective of this phenomenon. In addition I will show how archaeological reconstructions of the past are not only based on empirical data but their development is also influenced by theoretical approaches applied by researchers.

Such influences are present in all archaeological research and theory. A broad, worldwide overview of this problem was extensively covered in *“History of Archaeological Thought”* by Bruce Trigger (2006) and in *“Archaeological Theory. An Introduction”* written by Matthew Johnson (2010). Here, I would aim to present historical overview of ideas on Maya agriculture. Although my research was limited to a literature survey, I was able to observe very apparent examples of how archaeological theory influenced the topic. The issues of theoretical approaches are not always noted in publications, but archaeologists are aware of the limitations in the information they are able to provide, and many are also conscious of how different theories shape their interpretations. Bogusław Gediga wrote that some archaeologists often think that they are able to produce incomplete, yet objective portrayals of the past, while others argue that archaeologists can only propose some approximate models of the past (Gediga 2011: 103-104). Thomas Kuhn (1996[1962]) explained the history of science as a history of replacement of paradigms. Paradigms are groups of theories used for scientific explanation. When new information is recorded that cannot be explained by the current paradigm, it leads to the emergence of a new one. He compared such paradigms in science to the famous image of a duck-rabbit optical illusion – he claimed that scientist may see an object of study in many different ways. This is exemplified in how often archaeologists encounter simple duck-or-rabbit features that still escape any classification. Fortunately, archaeology is not an individual pursuit, but rather a matter of intellectual tradition based on decades of both development and accumulation of information.

METHODS

As Bruce Trigger (2006: 6-7) noted, Thomas Kuhn’s ideas about scientific revolutions and paradigm shifts are often used to explain developments in archaeology (see Johnson 2010). In this paper, I present three paradigm shifts that have occurred in archaeology that relate to perpetual transformations of how ancient Maya agriculture is studied. This refers to changes in sets of questions

that are thought to be worth asking, procedures for the collection of this information and how those phenomena were explained.

I will divide this topic into three stages of the historical development of Maya archaeology by presenting brief summaries about how ancient Maya agriculture was perceived during each stage. It can be argued that each of these three schools still exists. To display the characteristics of the theoretical schools, I will present three examples of how maize, a plant of great symbolic and economic importance for ancient and modern Maya, was conceptualised by archaeologists. Afterwards, I will discuss how in the future this topic can be analysed by new upcoming ideas of “symmetrical” archaeology.

THE EMERGENCE OF MAYA ARCHAEOLOGY

The pre-Hispanic Maya lived in the region that consisted of the entirety of modern Guatemala, portions of Southeastern Mexico (the Mexican states of Chiapas, Veracruz, Quintana Roo, Campeche and Yucatan), Belize, Western El Salvador and Western Honduras. What would have been the core, or interior, of the Maya domain, witnessed a sudden depopulation around the 9th century AD suggesting cultural change – long before the Spanish came. Since then, this central zone with its extremely dense network of settlements and impressive remains saw much less human activity and the growth of a tropical rainforest landscape. This resulted in the majority of sites and artefacts being unknown outside of the region. This remained unchanged until the middle of the 19th century, when the first explorers started to uncover remains of the ancient Maya, which has since captivated the attention of scientists and the imagination of popular audiences (Webster 2002; Eggebrecht 2001). Contrary to classical archaeology, almost nothing was known about Maya antiquity. Literature from the Early Contact and Colonial periods, which could have shed some light on the indigenous cultures at the time of contact, was not widely known and unavailable for research. Studies of such documents also began at this point (Hoopes 2011; Eggebrecht 2001). Additionally, these documents did not relate to the distant past of the Maya. In general, the state of knowledge on Maya cultures at the starting point of Maya archaeology can be described as non-existent. Perhaps this can excuse many of the explorers and some of the early archaeologists (i.e. Augustus Le Plongeon, or Jean-Frédéric Waldeck) for their interpretation of the Maya as a mysterious people, which largely appears to be influenced by European concepts of Romanticism, Classicism and even Esotericism (Hoopes 2011; Eggebrecht 2001: 406-411).

This mythologized perception of Maya continued to exercise some influence on views of Maya culture into the 20th century. Meanwhile, at the beginning of the 20th century a great number of artefacts, architecture and other kinds of data came to light, which have been recorded through archaeological research. Additionally, numerous researchers have made great advancements in understanding this ancient culture (such as the analysis of the numeral and calendar systems that proposed the correlation of the ancient Maya inscriptions to the Gregorian calendar – Goodman 1905; Hoopes 2011: 242). Continually, research has been constrained and limited by the environment-related issues previously mentioned. It was extremely difficult to organise expeditions to the Lowland Maya archaeological sites. At that time, they were “uncharted territories” with massive amounts of unrecorded, grandiose manifestations of the elite culture. Therefore, the focus of those archaeologists was in the material culture of the elites. Unfortunately, this resulted in limiting data collection to the central areas of Maya settlements, monumental architecture and elite graves, which in turn brought about a form of elite-related bias and preconception that distorted the majority of reconstructions, ideas and archaeological utterances about the ancient Maya. As noted by David Webster (2002: 114-116), early archaeologists presented the Maya as a society ruled by philosophers, priests and astronomers (see Figure 1). These people were living in the religious-administrative centres and were sustained by a scattered population of peaceful peasants (after Webster 2002: 114; Hammond 1978).

DRAWN BY HENRY SANDHAM.

Figure 1. Early archaeologists and their romantic vision on ancient Maya. Drawing by Henry Sandham, after Gordon 1898: 418.

THE EARLY ARCHAEOLOGICAL VIEWS ON AGRICULTURE AND ECONOMY

Early reconstructions of past Maya societies, especially the non-elite sections, were made by back-casting ethnographic observation and ethno-historic evidence (Hammond 1978). Archaeologists noticed that one plant in particular was present in Maya iconography – maize. At the same time, ethnographers working with Maya communities acknowledged the domination of slash-and-burn agricultural cultivation (often referred to by the nahuatl word *milpa*, meaning “the field”) based on maize, beans and squash and the subsequent practice of having long fallow periods (Hammond 1978). In ethnographic observations, it was also observed that maize in various forms could have accounted for up to 75% of all food production (Benedict and Steggerda 1936 after Thompson 1970: 283)². The modern domination of this subsistence mode was attributed by archaeologists to tradition. Even the presence of maize and smoke in Maya iconography were interpreted as slash-and-burn agriculture symbolism (Turner 1978: 13). Archaeologists’ models of agriculture were based on back-casting modern slash-and-burn cultivation. One of the most prominent early archaeologists, Sylvanus Morley (1946: 141) wrote:

“...The modern Maya method of raising maize is the same as it has been for the past three thousand years or more – a simple process of felling the forest, burning the dried trees and planting and changing the location of fields every few years [...] the only method available to a primitive people living in a heavily wooded, rocky, shallow-soiled country like the northern Yucatec Peninsula.”

This idea became so popular that a number of observations of the remains of ancient intensive agriculture were dismissed³ (Turner 1976, 1978). This is glaringly apparent in the following quote about a conversation that one of the forest workers had with Sylvanus Morley about what he observed during clearings of forest in Campeche and Petén:

“...Without exception in this vast area – one hundred leagues in length – these clearings, upon being burnt, showed every evidence that practically all the land had been occupied by small house-sites and land under cultivation. Morley violently disagreed with me on this point. He told me that he would not dare to return to Cambridge with any such theory.” (Schufeldt 1950: 225-226 after Turner 1976).

Ancient intensive Maya agriculture would be researched only later, when new developments in archaeology brought about a new interest in such issues.

NEW ARCHAEOLOGY AND THE DEBATE ON ANCIENT MAYA SUBSISTENCE

In the mid-fifties, the so called New Archaeology emerged. New Archaeology, or Processual archaeology, was a fresh theoretical framework for the scientific interpretation of past societies (Trigger 2006). Culture was understood more in relation to the process of cultural change. This intellectual trend borrowed from the so-called functional anthropology concept of society and culture which existed as set of structures (see Figure 2) both interrelated and interdependent, with each of those structures having a certain function (Wilk 1988; Trigger 2006: 394). Another important theory

² This estimate of 75% is frequently quoted in popular literature see Thompson 1970, see Sharer and Traxler 2006, see Brown 2008. Similar figures can be found in other sources like Rojas Lima 1989: 322

³ For example Cyrus Lundell was the first to notice the existence agricultural terraces in Belize (Lundell 1933: 72-77 after Turner 1978: 16). Already in 1925 Thomas Gann thought that Lowland Maya sites were densely populated and thus required intensive agriculture (Gann 1925: 221).

Figure 2. Example of Procesual Model - Fragment of “Flow Diagram presumed food/monument allocation”, redrawn by author from Trigger 2006: 423; original authors J. A. Hoslers, J. Sabloff, and D. Runge.

was cultural ecology. It was the thought that the process of culture change was a result of maximised adaptation to changing environmental conditions (Trigger 2006: 395, Wilk 1988). At the time, new sample collection techniques also appeared, such as surveying techniques with an interest in settlement patterns. Among the first new type of survey projects were Gordon Willey’s Belize Valley survey (Willey 1956: 777-782) and the University of Pennsylvania’s research at the site of Tikal (Coe 1965: 6-7). These acknowledged the vast and dense settlements surrounding the monumental architecture – information that revolutionised our perception of ancient Maya demographics.

The ancient Maya Lowlands are now thought to have been a densely populated region. Following the theoretical framework of Processual Archaeology, the new, understanding of the demographics implied the presence of efficient and intensive agriculture. The previously mentioned 9th century depopulation of the Lowland Maya region was already conceptualised in an idea of dynamic “societal collapse”. Processual archaeology had greatly developed and was very interested in the notion (possibility) that important economic and environmental factors like the relationship between the subsistence system and demographics⁴ were behind this “fall of the great civilisation”.

⁴ Also similar ideas revolving around deterministic vision of societies and cultures have been at this time present in the realm of Maya ethnology. The modern Maya communities were portrayed as having little relation to the past societies as they were supposedly results of the adaptation of the conditions to post-conquest conditions (see Carlsen and Prechtel 1991).

Because of this new assumption and the lack of recorded information on ancient intensive agriculture systems, archaeologists quickly started a debate on ancient Maya subsistence (see Hammond 1978). Archaeologists started to investigate the intensive techniques of agriculture. This included empirical observations that registered the remains of raised fields and agricultural terraces (Turner 1974; Puleston 1977), and theoretical speculations on how the Maya could have maximised their food production. The latter included theories suggesting that Maya subsistence followed alternative plant preferences. Bennet Bronson (1966) speculated that the ancient Maya ate more root crops, which are characterised by high productivity and high caloric value⁵. Dennis Puleston (see f.e. 1982: 358) proposed a similar reasoning on the use of the breadnut (or ramon nut, *Brosimum alicastrum*). Others simply mixed different plant alternatives in order to discuss that achieving maximum levels of food production in past times required that great diversification of subsistence techniques must have been in place (Wiseman 1978)⁶.

But the scientists who were trying to understand how the ancient Maya subsistence systems functioned seem to focus only on the theoretical aspects of agricultural inefficiency. I mentioned above that early archaeologists noted the vast presence of Maize in ancient iconography and related it to maize's great importance as a basic food in the modern indigenous diet. This does not negate theories that non-maize foods were important in pre-Columbian times in the Maya region. However, there is little evidence that supports the processual conception that the ancient Maya would have had a preference for non-maize foods as it would have been a more economically efficient way of dealing with environmental limitations. The rich traditions of eating maize and maize-related beliefs would not be taken into major consideration in processual archaeology because it focuses on economic and environmental determinants⁷.

The latest research brought empirical evidence which suggests maize was the most important food in ancient times. A great number of osteological remains of the pre-Hispanic Maya populations have been studied using the technique of stable carbon/nitrogen isotopes ratios. Such techniques can be used to determine an approximate amount of plant food or maize in the diet⁸. Recent isotopic analyses of human remains from the Classic period (250-900 AD) found in the Peten, Belize and Copan regions suggest that remains of past Maya individuals had very high amounts of maize in their diet – up to 90% in some individual cases (Gerry and Kruger 1997).

⁵ It has to be noted that that in the discussed case of root crops, the root crops could have been indeed of great importance in the past as apparently there have been recent discoveries of ancient manioc fields that consisted well-tended and important part of agricultural lands in ancient Joya de Ceren (see Sheets *et al.* 2011).

⁶ The diversification have been acknowledged to be important part of Classic Maya agriculture, but this refers to diversification in terms of soil quality, and cultivation methods.

⁷ Sophie Coe had wondered about the reasons behind such speculation in her popular-audiences-targeted book about ancient pre-Columbian cuisine: "*The basis of Maya food was maize... Yet a fairly sizeable academic industry has grown up specializing in denying this fact and putting forward everything from the ramon nut to root crops, seafood, or orchards of tropical trees as maize replacements. Obviously these food crops were all eaten, but the determination of archaeologists and anthropologists to dethrone maize from its place as the basis of Maya life demands explanation.*" (Coe 2005: 121).

⁸ The carbon stable isotope ratios analyses method was developed especially for Mesoamerica, as it uses the maize characteristics. For details please see Tykot 2006.

THE POST-PROCESSUAL ARCHAEOLOGY AND RELATED STUDIES ON THE MAYA

Similar frustrations with the limitations of processual archaeology led some archaeologists to abandon the processualist approach (Hodder and Hutson 2003). After the 70s, a number of archaeologists became interested in a theoretical approach focused on ideological aspects of past societies. Most notorious was Ian Hodder, who was the first to note that numerous societies exist where important cultural traits are established through symbols (symbolism) and not because of environmental or economic determinants (Hodder and Hutson 2003). This had certain consequences for the shape of modern archaeology. This theoretical approach has been referred to as post-processual or interpretative archaeology. In Maya archaeology, the occurrence of post-processual archaeology correlated with the significant decipherment of Lowland Maya Hieroglyphics, which brought massive quantities of textual information about history, ideology, linguistics and individuals from the Classic period.

The majority of such studies relate to newly deciphered information from glyphs and usually use the large amount of new information well. The information from glyphs and reconstructions of past belief systems are related to archaeological data (Martin and Grube 2008). Some studies exemplify a few problems typical of interpretative archaeology.

The new directions regarding the studies of Maya culture have resulted in more interest in understanding Maya ideas, such the understanding of agricultural ideologies (see Figure 3). A number of anthropological papers concerning the non-economic meaning of maize in Maya cultures rose, documenting it as an important part of the symbolic system (Carlsen and Prechtel 1991; Christenson 2001, 2006; Stross 2006).

Particularly, a study by Carlsen and Prechtel (1991) was of great importance, as it suggested the existence of a very important concept (named *j'aloj-k'exoj* by Carlsen and Prechtel) they observed among one of the Highland Maya groups. Their study suggests that a certain agriculturally maize-related concept is present in the indigenous Maya beliefs systems with the maize's role of food as an important source, and point of reference for metaphors, beliefs and ideas. This concept explains how indigenous beliefs were built on vegetation metaphors and how ideas of indigenous religion and the indigenous conception of a sense of living revolve around the agricultural concept of sowing and growing corn. Carlsen and Prechtel (1991: 33-34) suggested that this concept is also of pre-Columbian origin and can be found in ancient Maya iconography as well (e.g. the famous Pakal tomb in Palenque). This study became of great interest to ethnographers and archaeologists because it proposed a possibility of cultural continuity between modern and pre-Columbian Maya. It also presented a well-functioning explanation for some aspects of the presence of maize in iconography. Ancient Maya art extensively depicted maize in their iconography. Maize and maize fields are often interpreted as important for ancient Maya rituals and the legitimization of ancient rulers (for example: Bassie-Sweet 2000). It must be noted that no certainty exists as to whether or not this concept can be related to all ancient Maya groups, but remains a very well-functioning model that provides a great framework for making reconstructions and explaining the pre-Columbian beliefs.

The "thick descriptions" of archaeological and ethnohistorical studies have since been successfully adopted into works about the ancient Maya. The most known example is the narrative myth about the K'iche' deities, the Hero Twins (known from Conquest and colonial period literature), which has been interpreted as a structural equivalent to the Classic Maya Maize god (examples Coe 1989, Freidel *et al.* 1993; Taube 1992: 41-51; Bassie-Sweet 2002 and many others).

An example of post-processual studies that relate to the meaning of maize lie in a number of paleodietary studies by Christina White and her colleagues. As White *et al.* (2006: 145) wrote: "*the ideological and social value of maize and the use of isotopic paleodietary data*" allow us to "*move into the realm of post-processual archaeology and reconstructions of the social, political and*

Figure 3. Example of symbolism as key-element of post-processual archaeology's image of the past: Quadriparite symbol in past and modern Maya culture: a) pre-historic offering from Cival, Museo Nacional de Arqueología y Etnología, Guatemala City; b) designated space for modern indigenous rituals at Kaminaljuyu archaeological site; c) an example of modern offering (museum at Kaminaljuyu Park); d) reconstruction of the archaeological find from La Blanca (Museum in Retalhuleu) (all photographs by author).

economic dynamics of Maya society". Following the above-mentioned ideas about the role of maize in ancient Maya ideology and modern ethnographic observations related to ritual fasting with maize-only products, researchers analysed the amount of maize in the diets of ancient individuals and claimed that the amount of maize consumed had ritual-based rationales. They suggested that some animals were purposefully fed (or fasted on) maize because of ritual sacrifice (White *et al.* 2001, 2004). They also analyzed differences in the amount of maize in the diets between representatives of different social groups as well as the differences in the amount of maize during different periods. However, those interpretations are based on comparisons of a very small number of sample-specimens. For processual archaeology, which claims that experimental data should be used to fully confirm the theory (general laws), such small samples are not statistically significant; in other words, the evidence is not sufficient to support such inferences. The problem with post-processual archaeology relates to the existence of great difficulties encountered when attempting to achieve their goals (such as studies of past ideologies) (after Trigger 2006: 474-475). However, it is noted by many that the scarce, piecemeal epiphenomenal character of the archaeological data makes it impossible to fully confirm any theory (Johnson 2010).

In other words, processual archaeology claims that post-processual interpretations are hard to prove, while the post-processual archaeologist's answer is that nothing can be completely proven (Johnson 2010: 35-50). Another point lies in what was noted by Kent Flannery (1973) that due to the

limited, piece-meal, scarce archaeological data, the general laws that processual interpretations could produce were “mickey-mouse” trivialities and generalisations that completely ignored the “Indian behind the artefact”. It must be admitted that such “mickey-mouse” laws are not that useful given that the general public seeks rich descriptions of the past. This is well illustrated in what I was once told anecdotally by a senior archaeologist from Guatemala. She said that “archaeology is a very practical science” for which “only things that work are important”. Many of the very elaborate interpretations produced by post-processual archaeology about ancient Maya ideology seem to work extremely well.

An excellent case of such interpretative archaeology is represented by Patricia McAnany’s book “Living with Ancestors” (1995). McAnany noted that the archaeological record is highly inefficient in documenting human action and noted (1995: 158) that there exists “*a discordance between observed archaeological patterns and traditional modes of interpretation based upon ethnographic and ethnohistoric analogy and traditional, yet untested, assumptions about ancient Maya society outside the courts of divine kings*”. McAnany is aware of the different approaches and proposes a “rapprochement” of the different schools (1995: 5-6). She describes “*the interweave of ideology, economy, and power*” (1995: 6). She proposed a reconstruction of ancient Maya societal organisation, which involved investigating how Maya lands were divided in terms of kinship and kingship. A portion of her reconstruction relates to how ancestor veneration is entangled with agriculture and certain related ideologies. While making an excellent reconstruction of Maya agricultural ideology, McAnany does not describe the role of maize within. She also claims that maize production was not dominant and puts an emphasis on ancient agricultural diversity (1995: 71)⁹. Meanwhile, in modern ethnography, maize seems to be so crucial and influential that it can be considered an embodiment of “Mayaness”. This implies that yet another meaning of maize in modern (and presumably past) Maya culture exists.

DISCUSSION – PREDICTING THE NEXT DEVELOPMENT: MAYA, MAIZE AND THE SO-CALLED “TURN TO THINGS”

It has become clear that maize was not only a food, symbol, and ritual object, but also a being that processed more attributes relating to subsistence and symbolism. Ethnographic documentation of Maya groups indicate that maize is a very important actor in social life. It has been suggested that “*K’iche’ Maya do not plant maize to live, they live to plant maize*” (Rodas *et al.* 1940 after Stross 2006: 597). Maize is complimentary to being a modern Maya. This is exemplified by the fact that without eating maize one cannot speak the Maya languages properly (Christenson 2006), and many familiar and social events are described by references to, for example, maize vegetation cycles (Carlsen and Prechtel 1991). Maize is often used for divination, and when a child is born, it is believed that its destiny can be foretold by observing the outcome of a small, specially planted maize field.

Perhaps maize can be seen differently by the researchers, due to new theoretical developments that have become instantly popular in archaeology since early 2010’s (Olsen 2010). These developments are being influenced by new ideas in the social sciences, such as the symmetric ontology concept and the Actor-Network Theory (ANT), popularised by the French philosopher, Bruno Latour (2005). Latour aims at an analytical, “molecular” (“quantum”, in his words) partition of social phenomena, where such phenomena, which are usually examined and measured as wholes, are not only separated

⁹ The degree to which maize production was important can be disputed, but data exists suggesting that maize was a non-dominant type of food in the formative times of Maya culture (see for example Hammond and Miksic 198). A great diversity of food sources probably existed as well in this period (see Wilk 1985; Ford and Nigh 2015). In the same time this agricultural-vegetative ideology was already well defined (Taube 2004).

into “atomic” social beings (actors). And as an actor, not only human individuals are meant but also all sorts of beings (not only materially existing things like farmlands, stone tools but also other, social beings, like ideas of states or social membership¹⁰). Latour notes that all things produce a societal interaction (which he calls an association of two beings). Few example, an actor, whether human or being, can associate with another actor through function (be it a hammer) or agency (be it, for example, a scary place) and therefore a network of associations is created (see Latour 2005). Latour (2005: 10) suggests that the important contribution of ANT is that it not only considers an object’s traditional, “natural” (i.e. maize as food) and typically symbolic (“maize as divine attribute”) role, but also aims to describe other functions, such as maize as a mediator of language affiliation, as mentioned above. As Patricia McAnany (2010: XVI) put it, Latour’s ideas are “*a powerful way to conceptualize bidirectional relations between people and their material record*”.

Latour (2009) has also noted interest in the recent debate in Amazonian anthropology between two important researchers, Eduardo Viveiro de Castro and Philippe Descola. The main reason lies in the animistic principles that do not deprive non-human actors of importance and result in worldviews whereby the important (in fact person-like) roles of non-human animals and things are acknowledged. For Eduardo Viveiro de Castro, in Amazonian cultures there is a principle of what he calls “perspectivism” present. All beings are like humans, perceive themselves as humans, are only perceived differently by others, and therefore, beings are considered animated and symmetrical in interiority (Viveiro de Castro 1998¹¹). While Viveiros suggests this as a universal foundational principle for human ontologies, Phillip Descola attempts a comparative study and finds substantial differences between world cultures, thus arriving at a taxonomy of ontologies (see Latour 2009; Descola 2014). Viveiros has suggested that this perspectivism is a pan-American characteristic, although some have already proposed that this specific type of animist cosmology is not that of Mesoamerican peoples (for Nahua cultures, see Basset 2015: 200-201; Descola 2014: 207-218), which by many researchers (the most important being the Alfredo López Austin 1988) are considered to have animating forces. However, they argue that those forces are not identical interiorities, as they have multiple elements that occur in beings in different quantities, and for both of these reasons, the beings are varied and of different destinies.

However, in my opinion, Viveiros de Castro studies (1998, 2002) suggest that the symmetrical essence of the Amerindian perspectivism is related to relations and reciprocities created by the philosophy of the process of assimilation. By such “absorptive processes”, he understands ritual, symbolic (or not) cannibalisation or killing (e.g. of rival tribesman) that leads to consumption of the “soul”, which is a cognitive energy¹² and therefore to the absorption of identity (or being absorbed through transformative death) by other people, or the ancestors and gods. Many Amazonian groups have a concept of ideal ancestors. This includes their home, understood as pure, ideal and full of noble energy, and the degeneration of later generations as they multiply and dissolve the ancestral souls¹³. For Maya groups, a structurally similar set of mechanisms for the absorption of a *soul*-like substance and identity exists, and as well the philosophy of reciprocity. It is believed that by consuming maize, a Maya

¹⁰ It has been eloquently noted by Olsen (2010: 5) “*Societies or nation-states are not cognitive sketches resting in the minds of people; they are real entities solidly built and well tied together*”.

¹¹ As Viveiros de Castro (1998: 478) “*The differences between viewpoints (and a viewpoint is nothing it not a difference) lie not in the soul. Since the soul is formally identical in all species, it can only perceive the same things everywhere. The difference is given in the specificity of bodies*”.

¹² It is also something related with language or communication skills (see arguments by Descola (2014: 6-7, 139)

¹³ I was told that for some Western Amazonian groups (E’ñeapá group) the Ladinos and Europeans and their things (tools and food), are considered different and better as they are less degenerate as contain higher amount of “soul” because they are exiled later from the ancestral place (Dr. Mariusz Kairski, personal communication and lecture 19.12.2016).

is absorbing identity. Similarly, maize consumes earth. The earth is understood as the underworld and the land of ancestors and also deities of death (Fitzsimmons 2012: 17, 211 n.2; see also Carlsen and Prechtel 1991). Therefore, through a chain of processes of “soul” absorption, it is believed that there is reciprocal relation between humans, maize and earth¹⁴. This great symbolic role therefore derive not from function and being symbolical by itself, but it is containing and carrying an essence, a soul (in the terminology of Viveiros de Castro and Descola, an interiority) that is the same as in humans, and thus maize is being similar to humans. Ethnographical studies often note how humans are described with the terms of the plants, and the plant is described with body parts of humans (after Fitzsimmons 2012: 24). This suggests that maize could be and could have been understood in the indigenous worldview as an important person-like being in the Maya social world. In my opinion, both archaeological and anthropological studies will follow this direction and employ similar arguments in the future.

CONCLUSIONS

In the previous paragraphs, I presented a case study of Maya agriculture from the perspective of different archaeological theories in order to exemplify both the advances brought by the theoretical approaches and their disadvantages. These case studies provide a certain explanation as to why early archaeology, processual and post-processual archaeology have produced different models for the explanation of past cultural phenomena.

In the first half of the 20th century, many early archaeologists imagined the Maya as peaceful philosophers, astronomers, artisans, etc., living in sparsely populated, scattered settlements. In the research, to explain past phenomena ad hoc interpretations were used – usually the modern reality was projected into the past. Therefore farming was supposedly only done with slash-and-burn agriculture, just as modern Maya groups do in Yucatan. This was a great starting point, however, some elements of early archaeology’s vision of ancient Maya, like the non-existence of intensive agriculture, were inaccurate.

After the 50s, processual archaeologists acknowledged that the ancient Lowland Maya had enormous settlements that required great amounts of food. A push for scientific rigorism has lead to desire to deepen the understanding, produce models and generalizations of social phenomena and laws regarding them, themselves the models of social processes. The processual archaeologists became interested in how complex cultures living in densely settled areas could sustain themselves in a difficult tropical rainforest environment. This way of thinking allowed Maya archaeologists to explore the intensity and diversity of ancient Maya subsistence. In my opinion, new ideas applied by this theoretical approach were a great improvement, but they may not always exactly relate to what the ancient Maya culture really was. The processual models were concerned with “scientific” economic and environmental issues and often failed to take other information into consideration.

After the 70s, some of the other kinds of information were incorporated into frameworks of research when post-processual archaeologists popularised interests in ideas and beliefs that constituted Maya culture. While this also greatly improved our understanding of ancient Maya, the data used in such studies are also subject to number of limitations. It appears that many of our models of past Maya societies are highly hypothetical and that there is a great deal of variation in the opinions and interpretations of researchers (for examples and brief summaries on the diversity in opinions on the ancient Maya economy, see Liendo 2002: 21-31 and Masson 2002: 2-9). What may be a more major problem is that the studies of Maya agriculture in this article almost always acknowledge

¹⁴ A this is well illustrated by quote from Maya informer “we eat from the earth because of this the Earth eats us” (Knab 1979 n.v. after Fitzsimmons 2012: 211 n.2)

that their arguments are based on limited information but do not always acknowledge the limited number of categories of information they use (compare this argument with Feinman and Nicholas 1990, see also Kowalewski *et al.* 1992). This, however, also relates to the presence of certain biases and preconceptions formed as byproducts of theoretical approaches. Just as with other aspects of Mesoamerican culture, it is only important to obtain more information and new categories of data in order to make sounder assumptions about Maya agriculture and their economy (compare with Kowalewski *et al.* 1992). In extending this argument, it is my opinion that the debate would be greatly improved (if not revolutionised) if the new categories of data that are proposed by symmetrical archaeology and anthropology were implemented.

Bruce Trigger (2006: 546) suggests archaeologists should use a very wide range of perspectives and ask questions from different points of view. I hope the various angles presented above, which have helped us to understand ancient Maya agriculture in the past, will support this suggestion, show how diversity is the key to the scientific character of archaeology and prove to be important for future advances in Maya studies.

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