



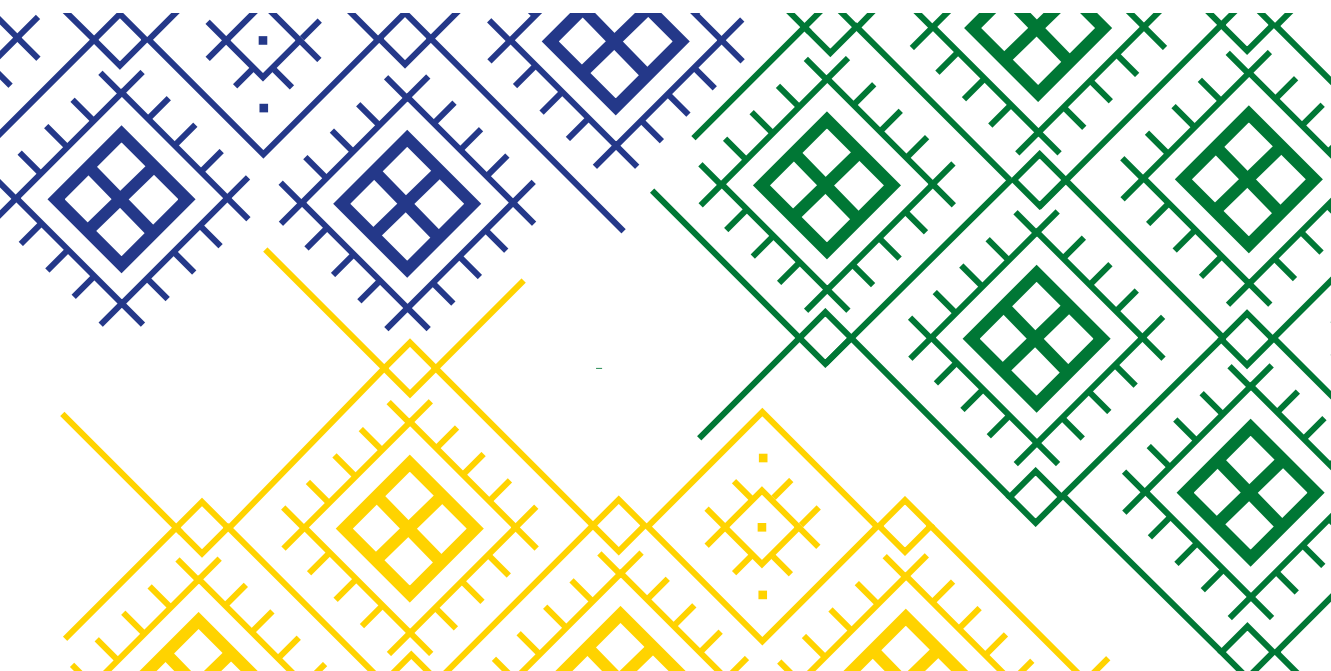
# Dutkansearvi diedâlaš áigečála

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# Fire and the Wai'kahana practice of slash-and-burn agriculture, Upper Vaupés River/Northwest Amazonia

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## Abstract

This article is based on a traditional millenary practice aimed at restoring and regenerating degraded environments in Piratapua Indigenous territories. It starts with an ethnographic description built on the biography of the author, who is an Indigenous anthropologist of the Piratapua people. As its field of research, it makes use of memory, which the author defines as oral echoes transmitted by the ancestors, and which are essential for constructing knowledge, including knowledge of patrilineal coexistence in the village. The work contributes to a continuous dialogue between social anthropology and Indigenous and non-Indigenous perspectives. Its aim is to describe the oral and practical theoretical understanding of fire management in the face of climate change, dealing with both how these changes are handled and with solutions for recovering degraded environments in Indigenous territories. It is concerned with the quest for the restoration and regeneration of forests, lands, waters, hunting grounds, fishing spots, and other places. The practice presented here can be applied and adapted to different global contexts wherever nature and technology coexist.

### *Keywords:*

Regeneration, climate change, fire; Piratapua People, Upper Vaupés

# Wai'kahana na pehkâ'me' e toho nikã na wehseri ʘhã-ohté-ba'á-da'rasé, Ahpẽkó mã Bu'ipɥ/Noroeste Amazônico.

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## Wehéne nu'kõ ohâró

A'ti papera artigo, du'pokâtí, atirope'tá tu'oyã da'raseti, nipe'tisé kahtisé nisé ditá dohorẽke're, mataputá ahopkã', da'ra muhâtike', na ukũ ohté ahpokã', pi'ni yahsã wihí buhuakã weekã', na Wai'kahana na yé kahtisé di'tapuré na weé kũke', ukũsé me'na, nu'ka muhâti. A'teré ohoaku'u kũu wi'imagu putá, teé kũu ni'kãnoakã, kũu Wai'kãharã kurá khũ Antropólogo, kũu yã mahsika'tike're, kũu ohoke'é níí. Kũu yá di'tá kahsé, kũu yehkusumuã, pahkusumuã, mayẽhkũsumuã na ukũkũke're kũu ohoáke'e níí. Teétá níí, mahsiseré ahponu'kõ da'rasé tisé, toho nikã pahkusumuã me'rã kahtí nisetisé du'pokã kahsé ayúsé. A'té da'ra bohká weéke', tohope'tá wesetikã ayūsató, níí ukuseti weató nííno weé, antropologia social me'na, na po'terikaharã na tu'oyã, na ukusetí, pehkasã yé me'rã, ba'parẽ ukusetiató, nino weé. Toho weéro maha, a'té ukũsé toho nikã teé ukũsé me'na mií yẽ'e, da'raseré, ohãno'nosá nike'níí, pehka me'e kahseré, wehseri da'rana, ukũséré ohoáke'e níí, a'té ku'mari duhkayusé ku'mari wa'ro wa'teroré. A'tirope'tá da'rasetina mari, toho ku'mari duhkayuri teroré, a'tirope'étá, ayũrosató mani kahtisé di'tá, dohore ke're, ahpó da'rasé, mani níise di'ta puré, níiseré ohoke'e, níí. Da'ra ba'na, nuhkuriné, di'taré, ahkóré, wai kurã dehsaba'seré, wai dehsaba'seré, ahpokã'a, ahpaturi ukũse me'rã bahsé ahpó, bahauakã weekã'a, weésétise kahseré ukũ, a'ti papera artigo puni. A'té bahsé ahpose, ukũse me'na da'rasetisé, a'tíí di'ta, nipe'tina kahtinã na nisé di'tá pati puré, tuó'kasató, pehkasã yé me'na, ni'kãno me'na ukũ, da'raseti, nikano me'na kahtisetisé níisa, níí tu'oyãkãné.

*Ukũsé-pãsé:*

Kahtiroti pinibuhásé, kumarĩ duhkâyusé, pehkâme'e, Wai'kãharã Kurá, Ohpekõ diá

## Introduction

As a historical base, we can engage our conversation with the analyses of Carlos Fausto on the “Indians before Brazil”. This author takes note of the descriptions and reports of colonizers and missionaries during the 16<sup>th</sup> and 17<sup>th</sup> centuries as a source for studying contemporary Indigenous populations. The soil of this land, in his view, is not rich (Fausto 2000, 7). In the book, Fausto presents us with the relationship between acidic soils and natural hazards, which destroys much of the registers of human presence. He also mentions the dense forests which hide many of the sites that were occupied historically. In what pertains to the forests, there is no doubt that there are indeed vast parts of the continent which remain unknown from an archaeological point of view. In his survey of conquest, we have information on the characteristics of the soils and the forests, but no reference to fire. In a critical and reflexive view, we find a concern with the fears and desires of the conquistadors, who sought to discover gold, convert the gentiles, occupy land and enslave natives (Fausto 2000, 8).

Current scholarship questions how much contemporary Indigenous peoples can tell us about ancient populations. From an anthropological perspective, the question is: Are present-day sociopolitical and cosmological system similar, in some way, to those that existed at the time of conquest or even before? What is implied is that Indigenous and non-Indigenous ethnology can provide a critical eye toward historical and anthropological interpretations. In the Western view, and according to anthropology, the socio-political and commercial relations of native people was locally and regionally articulated and interconnected. What is attested is that the texture of the history of Indigenous peoples is forged on an opposition between highlands and lowlands. The highlands are

the mountainous Andean areas, running parallel to the Pacific coast. The lowlands lie to the east of the Andes, and include the tropical forest: green, dense and humid. In social anthropology, this opposition arranges various dichotomies, which were gradually established during the 19<sup>th</sup> century, opposing the socially and politically developed highlands to the almost natural (savage) societies of the lowlands, a sterile and inhospitable place. In the midst of this dichotomy, Lévi-Strauss, under the aegis of the separation of nature and culture, deals with the “raw and the cooked” in his analytical scheme, qualifying myth as the explanation of something supernatural (Lévi-Strauss 2004, 37). According to Lévi-Strauss’ (2004, 13-14), as summarized by Beatriz Perrone-Moisés, his translator into Portuguese, we should underscore the analytical-comparative understanding of the notion of:

*(...) “maître de, which is complex and variable. There are cases in which these figures are not understood to be “possessors” of things or beings, but representatives, or obligatory intermediaries between humans and these things or beings. In other cases, they are “lords” in the sense that they possess leadership over these things or beings, which they “order”, but which they do not necessarily “possess”. In other case still, they are figures which produce, generate, things or beings, which they may or may not then order, and which they may or may not care for, distribute or cause to reproduce. In each mythological complex, the best translation will be the one that comes closest to eliciting these distinctions. But here, since we are dealing with a comparative effort, I needed to use a single term. The jaguar is, indeed, the owner of fire: he possessed fire before humans relieved him of it, becoming thus the owners of fire. Since it is with the jaguar that we begin, I have maintained ‘owner of’ as a translation for maître de” (Perrone-Moisés 2004: 13).*

To reach this conclusion, Lévi-Strauss analysed myths of the following peoples: Jê (Brazilian savannah, Paraguay and Bolivia), Kayapó (Brazilian Amazonia, state of Mato Grosso and central and southern portions of the state of Pará), Apinaye (extreme north of the state of Tocantins), Timbira (south of the state of Maranhão, eastern Pará and northern Tocantins), Xerente (Tocantins), Guaraní-Mbyá (Paraguay, Bolivia and Argentina), Tupi-Apapocuva (northern coast of Brazil, Peru, Bolivia, Paraguay, Argentina and Uruguay), among others.

In all cases, we can see that Lévi-Strauss used the word ‘myth’, which is a word taken from the colonialist literature, which distorts and disqualifies Indigenous knowledge as mere mythologies of the Highlands and Lowlands (Amazon basin). This silences the knowledges that Indigenous people possess, in their intellectual-oral traditions, the knowledges that permeate their lives and the blood of their resistances, from the conquest to the present. We can claim, in light of Lévi-Strauss’ work, that it is possible to describe knowledge about the origin of fire from the perspective of the *kumuã* (specialists) of the Vaupés, in the Upper Rio Negro, located in Northwest Amazonia, an anthropological region of lowland South America. In the cosmological knowledge of the *kumu*<sup>1</sup> (specialist) of the Vaupés, the soils and the rivers (red, white, and black) are described as places where milk and honey flow. The river, which originates in the Milk Lake, propitiated life for the Indigenous people (pamuri mahsã), enabling their transit by means of the transformation canoe (pamuri yuhkusu). In this view, for the people of the Vaupés, the matrix and origin of fire is

associated with the Sun, with man, animals, and some elements of the forest, as I will develop, within a more general context, throughout this article.

Thus, the construction of Indigenous thought on fire and slash-and-burn practices in Wai’kahana agriculture is based on the following categorical presuppositions: What can Indigenous people contribute with their traditional practices founded on the millenary knowledges of their ancestors? And what is the panoramic view of the Piratapuia people of the upper Vaupés in the search for solutions and practices that contribute to mitigate the effects of climate change in their reality and territoriality? This quest invites us to look at the historical narratives of the Piratapuia elders on fire and the possibility of its control in the practice of slash-and-burn agriculture in Piratapuia gardens.

It should be stressed that the ethnographic approach adopted here is based on traditional practices of fire management, in particular those that manage the cooling of the ashes and the earth/soil, by means of a technology of intelligible thought known as *bahsesé*<sup>2</sup>. It is a perspective of knowledge transmitted intergenerationally, on what we call, in the ethnological literature, the *coivara* regime.

*Coivara* is a Tupian word, included in Portuguese-language dictionaries, which expresses a concept related to the traditional agricultural system. It is a specific, locally adapted variety of slash-and-burn agriculture, and throughout this article I will use the word *coivara* in place of ‘slash-and-burn’. The practice of breathing that is involved in *bahsesé* (treatments for

<sup>1</sup> Kumu (sing.), kumuã (plur.), in the Tukano language, is a specialist in performing ceremonies to protect, sooth, pacify, etc.

<sup>2</sup> In the context of Indigenous thought, *bahsesé* are formulae used to negotiate with and mitigate diseases, as well as to calm down animals, hostile or rebellious nature beings, or even nature itself. They are also formulae of activation, geared towards improving the health and well-being of humans and nature. In brief, they are the conversations of the kumu (*bahsegu*), for which, in certain *bahsesé*, the formula for sweetening is applied so to restore forests (*nuhkurĩ*), soils (*di’tã*), plantations (*ohtesé*), animals (*waikurã*) and people (*mahsã*).

improving health and well-being) is an understanding proper to the Indigenous peoples of the Vaupés, which seeks the control of fire to achieve success when burning the garden. This practice is also linked to the fertilization of the soil, seeking a good crop yield. Coivara, for its part, involves cutting stems and branches followed by burning. In the context of the Upper Vaupés, coivara practices are applied when the traditional methods of burning the garden are unsuccessful. In other words, this coivara practice is employed as a method to improve burning by cutting stems and branches and gathering them in piles. Coivara agriculture is frequently used by tropical forest agriculturalists in many parts of the world, to make animal pastures (in South and Central America) and by dry rice cultivators in the mountain regions of Southeast Asia. The resulting ashes fertilize the soil and the terrain is made relatively clear of undergrowth. After many years of planting, soil fertility reduces and undergrowth returns. This is the time to allow for the regeneration and restoration of the forest, for 5 to 10 years, so that soil and forest can reestablish themselves.

Thus, alongside clearing and using fire to burn, the Indigenous practice is completed by the traditional cosmic breath of the kumu, so that success in burning can be assured. It is thus a practice that can be applied to the usufruct of forests, soil, and fire in the cultivation of plants. And the garden is linked to the theoretical oral practices and to the concrete practices of managing forest and soil. According to this understanding, the garden is one of the main agricultural sources of food and food safety for the people of the Vaupés. Climate change has altered these cycles, causing scarcity of manioc stem plantation and a lower yield of its fruit, manioc. Consequently, we are witnessing a decrease in sustainable production and in the exchange and sale of manioc derivatives, such as farina, manioc bread, manioc gum, etc.

These ethnographic data are based on *in loco* coexistence, in the oral transmission received from kumu specialists and registered by a Piratapua researcher. I am from the Wai'kahrã-Piratapua people, born near the black waters of the Pauprí River, a tributary of the Vaupés, in the municipality of São Gabriel da Cachoeira, in the Brazilian state of Amazonas, near the border with Colombia. I am an Indigenous teacher and hold a licentiate degree in Intercultural Pedagogy, specializing in Indigenous School Education, as well as a Master's degree in Social Anthropology. I am currently studying for my doctorate in Social Anthropology at the Federal University of Amazonas. The register of the origin of fire I present here is of the Tukanoan peoples, but it is known to all Indigenous peoples of the Vaupes; the practice for controlling fire, however, is knowledge obtained from Tariana, Piratapua, Arapaso, Tukano, etc., kumu. It is knowledge complemented by conversations amongst the kumu.

### **Piratapua methodology for knowing and researching coivara practices in our territories**

A kumu Piratapua is a generally experienced member in the local context of each Indigenous Vaupés peoples, who has his own understanding of the cosmological world of his people, of plants and animals, of the diagnosis, prevention and cure of disease which may be caused by *wai mahsã* (fish-people/cosmic beings), the reparation and regeneration of ruined environments and *umukohori pūrisé* (worldly disease).

As I showed in my Master's dissertation, the Piratapua kumu Jacinto Cruz (in memoriam) and the Arapaso kumu João Lemos, rely on a more rigid practice of preparation and seclusion to take on this function: to diagnose; to construct and adapt the bahsesé ritual (cure, protection,



tranquilization) which will benefit the dwelling-environments (hunting grounds, fishing spots, places where fruit is gathered, controlling animals, controlling pests) and the bahsesé for the integral life of the person. They understand the dwelling-worlds (method) of the waí mahsã, so that they can carry our conversations and diagnoses. They assure harmony, resolve people's illnesses or ailments, and also ensure the life of the forest, the river, the fish, the soil, the garden, the feasts, etc. (Cruz 2023, 68-69).

This study is hence an intercultural and interdisciplinary dialogue because it expresses the result of shared knowledge between people speaking languages of the Tukanoan language family. The Tukano language is the lingua franca in the territory known as the Tukanoan Triangle, in the Vaupés River basin.

In the epistemological context of the appropriation of Piratapua knowledge, we can call the methodology *ukūsé bohkasé*, which is the meeting of the foundation of speech and Piratapua knowledge. Thus, claimed the Pitapua man Jacinto Cruz (in memoriam):

Having and/or appropriating life in the cosmic garment of your ancestral grandfather of transformation, ornamenting yourself with it, with their adornments and taking possession of these elements, when you sit, you, as a Piratapua, will be at the same level of eyesight and understanding the "other" in your stool, cigar and yaígu of knowledge and/or knowing (Piratapua, registrado em 2023).

*Ukūsé bohkasé* is the practice of appropriating knowledge and facing up to the globalized world; a practice which activates transit and diplomatic dialogue with different knowledges and in different places and/or global environments. They are also ancestral visible and invisible adornments and ornaments (Fig. 1), in the sense that the Piratapua Indigenous person

can use them in material or immaterial form.



Fig. 1. Ornaments and elements for the appropriation of knowledges. Drawn by the author, José Carlos Almeida Cruz.

1. Bu'sá – ornaments
2. Su'tiró – all of the elements of the body
3. Ʋtã boho – yaí quartz stone
4. Ahpoã pihirĩ – Necklace with gold plates
5. Kahperi – the eyes
6. Kumurõ – stool
7. Yaígu - shaman's rattle lance
8. Munorõ – cigar
9. Kahtiri waháro – raw gourd of life (gourd of life)
10. Kahtirĩ sãrirõ – raw life support (life support)

According to this cosmological perspective, fire management and its constitutive elements, such as ashes, propitiate the life of plants. The garden, one of the activities inherited from the creator-divinities, is the foundation of life and food security for the peoples of the Vaupés. It is because of this and other basic factors of Indigenous agricultural practice that the National



Historical and Artistic Heritage Institute<sup>3</sup> recognizes Indigenous Gardens of the Upper Rio Negro as a Traditional Agricultural System<sup>4</sup>, a cultural patrimony of immaterial nature<sup>5</sup>. This practice, which involves ancestral agriculture and the use of traditional knowledges, is seen to be an important element in the identity and memory of the Indigenous communities of the region.

We must understand the Tukano words used in this study: *waí mahsã*, *mahsã*, *waí*, *o'me mahsã*, *waikurã* and other beings, who may be visible or invisible. I call them the snuff of words. Tobacco snuff is a traditional product, made not only of tobacco, but also of select herbs and tree ashes, inhaled for therapeutic and spiritual effects. It should be used with care. The beings involved in the snuff of understanding are as follows;

1. *waí mahsã* (fish-people);
2. *mahsã* (people);
3. *waí* (fish);
4. *o'me mahsã* (people of the mist/people who fall with the rains);
5. *waikurã* (animals in general).

'The snuff of words', in the context of this article, means having contact with these words in our language.

These beings live in the three worlds or dwelling-places (layers):

1. *u'musé patí* (sky-layer);
2. *ditá patí* (earth-layer);
3. *wamu diá* (earth core-layer).

Furthermore, the non-Indigenous methodology has developed within the descriptive-ethnographic, ethnological, context, an analytical-reflexive comparison of conceptions. Not all that different from Indigenous anthropology, it also involves interviews, fieldnotes, recordings, and transcriptions in Indigenous languages,

through the mediation of technology (cell phones). With the same characteristics of the Piratapuia method, the experience of coexistence in a village are part of the sociocultural, professional and academic career of this Indigenous author, anchored in an unwritten memory of his own biography.

Otherwise, an understanding of the interculturality and interdisciplinarity of epistemological knowledges have guided the analysis and conversation with knowledges from sociology, biology, ecology, philosophy, geography, history, environmental rights, sustainability, etc. It is in this framework that I have developed the theme of the control of fire and the traditional practices of managing burning in the Piratapuia garden.

## **Waí mahsã in Piratapuia cosmological understanding**

For the people of Vaupés River who inhabit the Tukanoan Triangle, the *waí mahsã* are cosmological beings, guardians of space (Barreto 2013; Azevedo 2016; Maia 2018; Rezende 2021; Cruz 2023). Thus, Indigenous anthropologists register these things in their research, essays, dissertations, and theses. And what, exactly, are the *o'me mahsã*?

According to my father, the Piratapuia Jacinto Cruz (in memoriam), the *o'me mahsã* are beings that fall with the rain, mediated by the *o'me ahkoro* (mist rain), which causes the *o'me poeró* (mini flood of mist rain), which propitiates the mini *piracema* (when fish lay eggs on the várzea). They are the fish. For the Piratapuia and Aparaso people, *waí mahsã* and *mahsã* are the beings that inhabit the three dwelling-worlds and transit autonomously through them. The first are the beings

<sup>3</sup> Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN).

<sup>4</sup> Sistema Agrícola Tradicional (SAT-RN).

<sup>5</sup> Administrative Process nº. 01450.010779/2007-11.

proper to this world, and the latter travel through them by means of intelligible thought and/or with the aid of *kahpi* (ayahuasca) or *wihiõ* (paricá).

source of life, they make up this perspective: wind, water, Sun and Moon, starts, and everything that has influence over the well-being of these people.

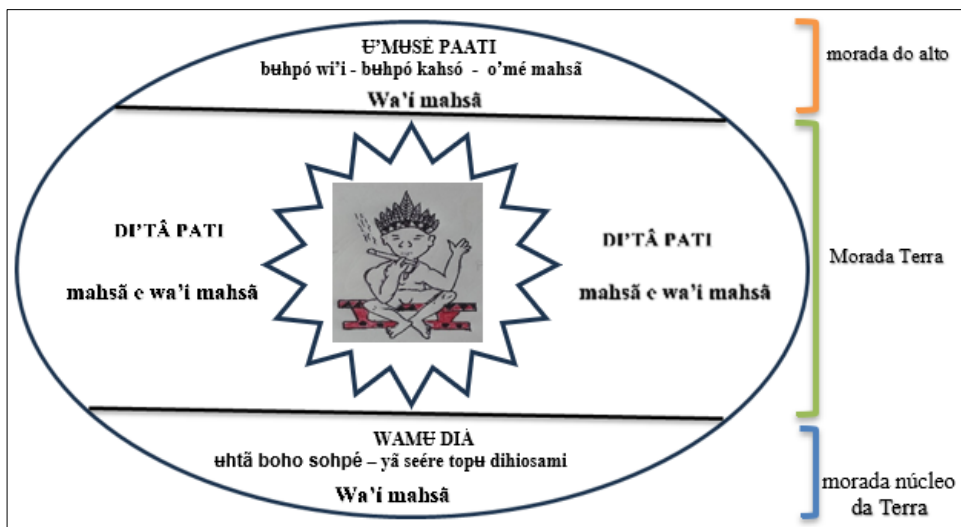


Fig. 2. Beings in the three layers of the worlds: Sky Layer, Earth Layer, and Earth Core Layer. Drawing by the author, José Carlos Almeida Cruz.

The *waí mahsá* beings, in their world, are gifted with intelligence, thought, the power of metamorphosis, wisdom, material (visible) and immaterial (invisible) domain, ever since the journey of the Transformation Canoe (*pamuri yuhkasu*) (Cruz 2023). Barreto (2022, 180-191) calls this power of metamorphosis “*sutiró*”, which translates as ‘garment’. However, it is the temporary embodiment in the body of another or in the body of another being.

It must be stressed that *waí mahsá* does not only refer to the fish, but to all the cosmic beings that can be our allies or our enemies, and can cause disease, strife, and even death (Cruz 2023). Thus, the *waí mahsá* beings are fish, snakes, reptiles, birds, vertebrate and invertebrate animals, venomous and non-venomous animals, as well as plants (forests and their fruits). As parts of the

Taking western understandings of these concepts, we can explain that these beings experience two cosmological times: 1) Time of the emerging people (*bahuari mahsá*) or of pre-transformation; 2) Time of the transformation of people<sup>6</sup> (*pamuri mahsá*) into *mahsá* (people/humans). In the former, beings dominated the power of metamorphosis of *su'tiro* (protective ornament). In the latter, people-beings leave behind this power of *su'tiro*, or returning to life. They thus function through *bahsesé*, which involves intelligible thought. They also seek the assistance of *kahpi* and *wihiõ* to access the three worlds/dwellings, while the *waí mahsá* being retain the attributes of the first time in their trajectory through the second time, up until the present day.

Likewise, we can claim that a part of the *waí mahsá* transformed into “human people”

<sup>6</sup> This refers to an understanding of beings which were human people but embodied in fish form. It refers to one of the translations of *pamuri mahsá*, which, created by a divinity representing its people in the milk lake, journeyed along the Brazilian coast until the adventures of transformation on the Amazon rivers, its tributaries and sub-tributaries. *Pamuri mahsá* are the people of transformation, marking the transition from this condition of cosmic beings to the condition of human people.

and others, those that stayed, remains waí mahsã (cosmic beings). Those who stayed have retained their capacity to change skin or hide: they are sometimes fish, sometimes snake, sometimes land animals (Cruz 2023, 48-49). Thus, during the time of the emerging people, there were only creator divinities, which appeared by themselves, and which dominated use of fire. It was – if we may here borrow the Western term – a “magical” time. But, if we analyse things properly, the natural world is still magical.

### The origin of fire in a conversation between the Piratapuia of the Paurí River and the Tukano of the Vaupés

According to the Sebastião Tukano, *yepâ oãkuhũ* (yepâ divinity) intermediated the origin of the possession of fire with the pamuri mahsã (people of transformation) by stealing the fire from the Sun, who was the “keeper of fire”. The aim was that the pamuri mahsã, in possession of fire, would be able to use to roast meat, fish and other food.

Without possession of fire, the pamuri mahsã fed on maniwaras (ants), muchivas (a type of larva that feeds on chonta pulp), and species of earthworms and water worms (daracubí).



Fig. 3. Fish being smoked. Image: José Carlos A. Cruz.



Fig. 4. Maniwaras ants. Image: José Carlos A. Cruz



Fig. 5. Muchiva larvae. Image: José Carlos A. Cruz.



Fig. 6. Types of Vaupés fish. Image: José Carlos A. Cruz.



Fig. 7. Piranha with maniwara antes. Image: José Carlos A. Cruz.



Fig. 8. Cooked paca meat. Image: José Carlos A. Cruz.

Eating only these foodstuffs, the *pamuri* *mahsã* lacked some ingredients which strengthened their bodies. These foodstuffs that were eaten before the possession of fire are today serves as hors d'oeuvres, sold in markets.



Fig. 9. Piratapuaia man smoking fish with fire. Image: José Carlos A. Cruz.

Without fire, they could not roast (or smoke) fish or the meat of animals (game meat) to feed themselves, which, in the view of *yepã oãkuhũ*, meant that his grandchildren were always physically weak. This fact triggered the theft of fire, which is also its origin.

## Analytical interrelations of *waikurã* (animals) and *mahsã* (people)

Through the narrative on the origin of fire, we can claim that the technique for producing fire was under the control of the

*waí mahsã* and *waikurã*, as attested by the fact that the alligator interfered in the theft of fire from *yepã oãkuhũ*, who, for his part, stole it from the Sun.

The cacique birds tried to take fire from the alligator, striking it with their beaks, in the hope that it would open its jaws. They were unsuccessful, succeeding only in making the hard and scaly hide of the alligator emerge through their blows and pecks. While pecking the alligator, the cacique birds were burnt, and the configuration of their garment (*su'ti*) or garments (*su'tiro*) underwent changes. In scientific language, the cacique birds underwent a metamorphosis in their garment and ethology, assuming their different colourings and becoming black caciques, red-beaked caciques, white-beaked caciques, and caciques with red beaks.

The alligator, having stolen fire and fled with it, shared it with all *waí mashã* beings, such as *paca* and other nocturnal animals. *Paca* is an animal with nocturnal habits. Others probably stole it from alligator. All *waí mashã* with nocturnal habits obtained fire, one way or another. For this reason, we claim that *waí mashã* exist in their world and, in their world, they are people (*mashã*).

In the sociocultural and epistemological context of the quest for fire, *yepã mahsũ* (*yepã* people), by means of the force of their intelligible thought (*bahsesé*), sought to reclaim fire. In their quality of *pamuri mahsũ*, *yepãmahsũ*, in possession of *bahsesé* (intelligible thought), conversed in dreams with the alligator. Using the *bahsesé* as an artifact of persuasion, through elements of the quest for knowledge, settled with tones of insistence, they succeeded in making the alligator open its jaws to reveal the technique for producing fire.

In dreams that mediated the conversation between *mahsũ* and *waí mahsũ*, in its quality as *wai mahsũ*, the alligator asked his grandson *yepã mahsũ* to fetch material such as: the branch of *mohsã* (*achiote*) and a piece of the *paxiúba* palm broken into a rod,



made smooth, along with scrapings of the achiote branch.

Thus, control of fire, which marks the origin or emergence of the technique of producing fire, occurs first through the control of fire by wai mashã. It is hence a wai mashã technique passed on to the mahsu. What was the technique? To the use the paxiúba rod, along with the achiote branch scrapings. The former is gently swizzled on the achiote branch scrapings. The rotating movements continue until fire is produced.

The process of the origin of fire therefore comes from the Sun, and later Yepa oākühũ steals it from the Sun. In possession of fire, Yepa oākühũ, in turn, has it stolen by the alligator. The cacique birds then try to rescue fire, but they fail. The alligator shares fire with all of the nocturnal animals. That is, through a technique passed by on the insistence of persuasion (keeper of lies), mediated by the bahsesé and dreaming, the pamuri mahsu succeeded in possessing fire. Since first possessing fire, the pamuri mahsã have faced the difficulty in keeping it lit and/or of keeping an ember alive. The only way that they found which worked was to keep an ember lit in a ceramic oven (di'í ehtaró). In the aftermath, other people came to get fire. No doubt, they shared the technique with many people. I would like to stress here that a function of Indigenous women is to always keep the fire lit, so that she may cook her food, or else to keep it alive in the over. In general, the ember is kept lit by a specific firewood from the vacú tree (a wild fruiting tree bearing bitter fruit).

### **Wehsé uhuãgu ũkũro/ di'tã yuhsuoró. Fire and coivara practices in Wai'kahana (Piratapuia) agriculture in Upper Vaupés**

As an Indigenous researcher, I describe a *practice that involves theory and practice*. Theory is the dialogue of intelligible thought and practice is the result of the

management and control of fire in its concrete form. In its essence, this is a millenary cultural practice of managing fire which does not have large-scale effects. It is a possible and tried practice, ready to both face the impacts of climate change and to find possible solutions for recovering degraded environments in the Indigenous territories of the Vaupés.

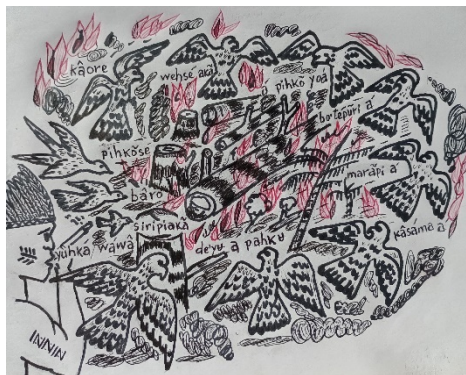


Fig. 10. Management and control of fire: the force of the wind of birds (eagles). Drawing by the author, José Carlos Almeida Cruz.

The Piratapuia bahsegu enacts this practice. He prepares his cigar with tobacco and does the bahsesé, applying the strength of the winds and the eddies that the eagles and/or hawks produce when they flap their wings at the moment in which they catch prey. That is, the kumu activates the wind that is produced by the flight of the birds. The winds become manifest as eddies. This is the potency of the winds incorporated in the bahsesé. The eagles are not, however, fire; the wind is the strength that activates the potency of fire. Each of the hawks, eagles, and the two birds are enveloped in a natural force of winds that are at once visible and invisible. The kumu embodies the wind through the bahsesé, the firewood with the active force of fire as ember (pehkã porãtise). And the fire is manifested as types of veins and winds of hot air. The potency of the fire eddy in the form of a wind spiral rises, envelops, and burns the garden.



Fig. 11. Virgin wood garden. Image: José Carlos A. Cruz.



Fig. 12. A recently burned garden. Image: José Carlos A. Cruz.

This is the moment of fire management in small-scale coivara practices. We can claim that the birds, with their wind mediated by the strength of the kumu's breath, make it possible to control fire during the burning the Piratapuia garden, as an Indigenous cultural practice. This practice aims to strengthen planting, ensure the care of plant growth, and generate a crop yield that can sustain the daily life of Indigenous community in their territory. The nine eagles and two little birds are elements that produce and are enveloped by their own force and by the Piratapuia kumu's bahsesé, which mediates between them. According to my father, Jacinto Piratapuia (in memoriam), these birds are:

1. kâuré eagle;
2. garden hawk (wehsé á);
3. long-tailed hawk (á pihkō yoá);
4. umbaúba-leaf hawk (bo'tea purĩ á);
5. tuvira eagle (marāpi á);

6. pacú eagle (kasama á);
7. 'yu eagle, chief of the eagles (deýu á pahku); and then we have:
8. the vulture (yuhká);
9. the king vulture (wuawá).
10. And, to complete: 1) swallows and 2) baáro and/or pihkōsé.

In the process of orally transmitting the teachings of the bahsesé to the apprentice kumu, the senior kumu teaches the formulae in their proper sequence. In this case, we can observe the birds that are interrelated in this management of fire. Thus, it befalls the apprentice kumu to exercise and perfect it, in his practice, which requires memorization.

We can therefore clarify that all bahsesé is a ritualistic practice that demands the use of intelligible memory, and, no doubt, this practice of managing fire is a management of intelligible thought toward the burning of the Piratapuia garden.

According to Piratapuia analysis, the hawk and/or eagle, the two vultures, the swallow and the baáro bird (scissor hawk), each one in its own way of being, in intelligible thought, are provided with boughs that conduct strands of wind and/or the elongated wind tails. When they stop down to imprison their food, the cause a sound (weoó) of wind produced by the air of their wings.

Thus, it is these strands of conducting boughs of wind and/or elongated wind tails which the kumu manages and/or manipulates in his thoughts involving intelligible memory. The kumu then activates these forces, making them very sweet, to make them reach a successful level (uhpití weé), pulling the winds, raising them and making them form mini-tornadoes or eddies.

Analytically, the hawks, the eagles, the vultures, the swallow, and the baáro are invisible but manipulable by the intelligible thought of bahsesé. They are embodied; that is, they become cosmic instruments with

visible and invisible material forces, making the wind and its strength emerge, as well as the wind eddy.

Yet only the apprentice or experienced kumu, or the yaí (shaman), who have undergone initiation and received the attributes of a kumu, can manipulate these elements, since beings, such as the waí mahsã, dwell with all of their being and way of life in their world.

The bahsegu (agent of the bahsesé) operates with his intelligible thought the force of these beings and their strength-elements which cause wind to create a successful garden fire. The kumu evokes, selects, saying the name of each bird involved in the bahsesé, and scrutinizes each detail of the wind for the successful evolution of the garden fire.

### **The bahsesé practice of cooling as control of the ardour of the fire's embers enveloped in the place and in the soil of the garden**

According to Piratapuia knowledge, control lies in the cooling breath after the burning. My Piratapuia father and other wise kumu elders say that control is in the breath, which is the opposite of what was carried out during the burning.

The kumu unmakes the gusts of burning. He removes the strength and undoes the wind eddies caused by each of the birds. He then cools the fire and the ember and stores away each bird in their dwelling-places. This cooling of the earth involves removing the ardour which hovers over the burning. It involves implanting the types of fertile soil in the earth for planting.

According to my Piratapuia father, Jacinto, the Arapaso João Lemos, and the Tukano Gabriel, after burning the soil is hot. It is for this reason that the bahsesé of *di'tâ yuhsuoro* (cooling of the soil) and *di'tâ ahporó* (reordering of the soil/fertilization)

is indispensable. The traditional practice of managing fertilization (a sort of composting) by means of intelligible thought is the focus of my doctoral research. Some ideas are therefore not included in this article, because the understanding of the use and control of fire is the fruit of a collective labour, in what pertains to the ethnographic description of the thesis of the Indigenous Piratapuia researcher.

Another important factor for the wise kumu elders is the element of water in their bahsesé, to cool the land by means of intelligible thought, sitting and enveloped by elements that embody real facts, such as events and/or happenings. However, the kumu may blow into a cigar or a pot of water so that, afterwards, the water can be poured into the soil which delimits the garden, after the blessing.

We can therefore stress that this agency generates and operates an interconnection of man and nature with its elements. The epistemological understanding, which involves an understanding of context, allows these practices to function in any environment of the terrestrial globe, since the functioning of these elements transcends physical matter, or, better yet, they operate on physical matter in material and immaterial spaces.

It is this understanding of the management of traditional practice which is operated with intelligible thought that makes viable the practice of controlling fire, according to the Piratapuia people and other peoples of the Upper Vaupés. They thus attest to three types of water: white water (ahkó buhtisé), black waters (ahkó yísé) and red/silty waters (ahkó soásé). Each one of these has different tastes and flavours and possess states as cooling and/or cold waters (yuhsuasé weri mări), or pots of cold waters that generate life (weri ahkó kahâ).

In brief, to the thought of traffic and intelligible memory, the Piratapuia kumu adds breath, transforming and gathering water in one single mixture with the three



qualities of water: good water (ayŭsé ahkó), cooling water (yuhsuasé ahkó) and tasty/flavourful water (u'seásé ahkó). With the cigar, the kumu preforms the bahsesé of puffing, and he sprinkles water on the burnt land. This is the meaning of cooling the land or the soil where burning took place, through the bahsesé, an interconnection of intelligible thought connected to natural elements that promote an interconnection with the life of forest beings and other beings that inhabit it. It is a practice geared towards the regeneration and resurgence of forests.

It is worth noting that in the conception of the peoples of the Vaupés everything has life. Therefore, this practice of bahsesé, which involves the forces of the winds of the eagles and/or hawks and the elements of water is a traditional negotiation which also propitiates the fertility of the soil and the development of cultivated plants, and, later, the plants that will grow in this place will have an abundance of water to ensure the (re-)existence, regeneration, and resurgence.

It is a fact that the plants, the trees of the forests, even in the height of summer, resist the heat of the Sun because the earth received the element of water by means of the bahsesé of the Piratapuia kumu.

In this understanding, these practices deal with the restoration of landscapes and dwelling-places that have been ruined by the waí mahsā and the mahsā. This can be an effect of human activity but also of the waí mahsā. As has been stressed previously, this practice involves intelligible thought on

the invisible forces and invisible forces, the thought of people that generates harmony in life and well-being between the mahsā and waí mahsā beings.

Fire and its relation to burning the Piratapuia garden has many meanings. I here highlight some of them:

1. The garden, delimited on a small scale and burnt properly, is a productive and nutritious garden for plants, understood as waí mahsā and/or yukuri mahsā beings.
2. A poorly-burnt garden is not good for planting, because it is not composed of elements such as ashes, which give plants a nutritious odour. It invites practices of sweetening<sup>7</sup>, fertilization and/or nutrition of the soil with the elements of the Bahsé ahpose<sup>8</sup> (dealing with ruined environments).
3. The garden that has been successfully burnt will regenerate, sprout, grow and reestablish a new forest in its natural place. It does not necessarily require Bahsé ahpose.
4. A fundamental rule, a cultural practice, is to apply a fallow period of approximately 20 years of more, and to not apply rotation of cultigens after the yield of plants (manioc, potatoes, sugar cane and others). That is, we should not reuse the garden in the same place, during this time which is safeguarded for the restoration and regeneration of the forest and the soil.

Based on these four observations, we can attest that fire is an asset, when used properly, when used to benefit life, but, at the same time, a destructive evil if used with

<sup>7</sup> To carry out the sweetening (*mumipose*) which involves *kārakosāse*, the following plant species and their fruits are used: the three types of sugar cane (small, medium, and large) planted by Indigenous peoples and the three types of sugar cane (small, medium and large) planted by non-Indigenous people; to this we add species and types of bananas, except for the inajá banana because it harmful to our health. The kumu bahseḡ can also add the two types of cucura

<sup>8</sup> The term *bahsé ahpose* refers to the set of bahsesé carried out by the kumu (a specialist on the cosmologies and cosmopolitics of his people), with the aim of furthering negotiation aimed at reordering man with nature and man with himself. Thusm, the *bahsé* is the act of blessing, while *Ahpose* refers to the act of fixing, seeking to restoring places to their former state. This reordering seeks the alimentary well-being of the person, as well as harmony in hunting

bad intent – depending on how it is used it can even be catastrophic. Fire, as an element used in subsistence agriculture, must, as a rule of the people of the Vaupés, be followed by a fallow period of 20 years or more so that the forest and soils can be regenerated, so that they may later be used again.

In sum, the sense of the management of fire in burning the Piratapuia garden is Bahsé ahpose, which is the bahsesé that propitiates restoration, regeneration, and resurgence of forests and the beings that inhabit it, the soil, and the cultivation of plants. It is the return of the land to its formerly productive state. It should be reaffirmed that the Bahsé ahpose can be applied to any environment of the three layers/dwelling-places of the mahsã and waí mahsã.

I here present some solutions proposed by this researcher of Piratapuia traditional practices for facing up to the damages of ruined environments:

1. The traditional Indigenous diplomatic dialogue between mahsã (people) and waí mahsã (cosmic beings) avoids existential conflict between these beings.
2. Fire and its control, in the coivara practices by means of the bahsesé of the kumu, so that gardens may be successfully burned, in small scale and in a contained way, and therefore without the extension of fire to other environments which are not under the operation of the bahsesé.
3. The success of garden burning involves, in bahsesé, the powers of the wind of the birds, which, afterwards, must be undone by the bahsesé of cooling, fertilization and nutrition of the soil.
4. The practice of the bahsesé of cooling the soil with the three waters (red, white, and black), mediated by the sweetening, in a single water with the different flavours, acts in the same way, on the soil (red, white, and black),

making it fertile (fertilized) and provided with water, which will give it sustenance and resistance, propitiating restoration, regeneration and resurgence – of the soil, the plants, the forests, and other mahsã and waí mahsã beings.

It is a fundamental rule to allow the place to remain fallow for approximately 20 years or more, and to not rotate cultigens after plants have been collected (manioc, potatoes, sugar cane and others). That is, the garden should not be reused in the same place, during this period, which is set apart as a time for the restoration and regeneration of the forest and the soil.

This practice is hence the Indigenous Piratapuia technology for regeneration and reforestation. Without bahsesé, plants will not grow healthy. In the case of manioc stems, for example, these may grow to be exuberant, but they will not bear fruits. Or they may grow but fail to reach maturity. Thus, ecological restoration needs this bahsesé to complement reforestation.

There are some precautions against the elements of fire in the raw life of the pamuri mahsã (transformation people) or mahsã (people). In what pertains to the raw life (kahtisé) of the peoples of the Vaupés, known as pamuri mahsã or mahsã, and their interrelation with nature and the beings that exist in it, and in the understanding of the Sun as fire, among others, there are 6 precautions that have been practiced since they were created by the Grandmother of the World (ʔmuukho Yehkō). These are practices that have been tried in theory and in concrete practice:

1. The newborn child cannot be exposed to the Sun. We understand and we claim that the Sun kills (muhipũ wehẽka sami) the child, making black spots appear all over its body, leading to implications such as: “the rays of the sun burn”, the child cries, causing its skin to change;

2. Without the protection of achiote, the Sun burns the face of women;
3. Certain types of heartburn come from the ember, the smoke of burnt firewood. Firewood can contain burning poisons (nimã) because they come from specific types of toxic plants used to smoke/roast fish.
4. The Kumu (blessor) must, by his own rigidity and the perfection of the bahsesé practices, take care not to eat hot food and not to blow on fire; if he does these things, his blessing loses its power and the efficacy or success, that is, the power of his blessing of curing, weakens, loses potency, and it may only achieve results after the bahsesé has been practiced many times.
5. In regards to the meaning of fire linked to the body, in the organs of the human body the intoxicated food burns the stomach. For example, chili causes “pūrisé” pain and “uhūasé” heartburn. The heart may burn, by intoxication, whether intentionally, by human action, and/or due to an accident.
6. The leftovers of hot food, such as liquids, should not be poured into the water nor in places inhabited by people, since these are paths or dwelling-places of the waí mahsã/ This is particularly true during travels, hunting, fishing, etc.

Thus, these practices are indispensable to the physical, psychological, alimentary, social and cultural health of the person.

## Final Thoughts

The management and control of fires is the dialogue of traditional diplomatic negotiation between the Piratapuaia kumu and the forest beings-people towards its regeneration and resurgence. In a general sense, a good kumu, an experienced specialist, can store the beings of the forest,

bring them back, and/or extinguish them. Thus, it is a millenary cultural practice of fire management which does not have large-scale effects, because it derives from subsistence agriculture. Furthermore, the forest and land used must, as a rule, remain fallow for 20 years or more, so that it may be restored and regenerate. This is the differential of the management of fire, of the forests and the soil. As a traditional subsistence practice, the Piratapuaia carry out this management with no financial cost, that is, there is no financial aid for restoration and regeneration, even for preservation and conservation in a business sense. Yet this practice works and can be applied to any global context where there are soils, forests and beings that inhabit it. And it is a tried and tested method against climate change, that can make up the search for possible solutions for recovering degraded environments in Indigenous territories in the Vaupés.

However, the extinction of beings is not the bahsesé thought of the Piratapuaia kumu. He seeks a solution for degraded and ruined dwelling-environment places, in the hope of returning them to their former state, to make them pleasant for the existence of the waí mahsã and the mahsã. This has thus been the scope of this research: the restoration, regeneration, and resurgence of living beings in the dwelling-environments. More specifically, it is a traditional practice to keep forests standing, green, and full of life. To think of theory and practice through existence, propitiation, and the perpetuation of life for future generations. Yet it must also be noted that there exists a thought contrary to this one.

Thus, the Bahsé ahpose, which involves traditional dialogue with forest people-beings beyond the visible, activates all ecological systems that exist in the Piratapuaia understanding (the three layers-worlds) and the material and immaterial populations of the ecosystem. It is the vital vein of preservation of the environment and all aquatic, terrestrial and airborne species.

It is for this reason, the propitiation of mahsã and waí mahsã life, that the practice of fire consists in the traditional Indigenous diplomatic dialogue with the waí mahsã beings, the goal of which is to prevent others from ruining their dwelling-environments with fire. These beings, in their dwelling-environment, possessing or lacking fire, in human (mahsã) form in their worlds, can suffer consequences and, at the same time, disseminate evils and/or well-being to man and nature.

It thus befalls the kumu to promote (or not) the good neighbour policy, and to further peaceful coexistence, which functions in the agency of the Bahsé ahpose, as a practice, through concrete elements of “nature” which can be, at the same time, abstract but “materialized” by the intelligible thought of memory that makes possible the use of fire and forest, interlinked in the garden. It is according to this perspective that the Bahsé ahpose extends its benefit in the usufruct of the forests, in the care of its beings, in the fertilization of the soil, in planting and in abundant yields. Without these engagements, the desired results will not be attained. In brief, the final phase is regeneration and resurgence. It should be stressed that burning the garden, as described here, means burning trees felled by the axe in a small scale. Or, better still, it is the success of traditional diplomatic dialogue with tree-peoples (yuhkuri mahsã), before the garden can be opened, and the virgin forest felled. The land of the virgin forest is the future result of a good yield. To this end, we converse with the forest-peoples, with the beings that inhabit the forest, with the soil, with fire, with the animals. Without the garden we would not have farina, chibé, manioc bread, nor caxiri to drink. The garden sustains our existence; without it we go hungry. ♦

## Oral Sources

- Jacinto Cruz, (kumu). Ucapinima (Ki kahseri yōa), Central Papuri River, Distrito de Iauareté, São Gabriel da Cachoeira-AM- Brazil.
- João Lemos, Yaí (kumu). Loiro, Rio médio Vaupés, Distrito de Iauareté, São Gabriel da Cachoeira-AM- Brazil.
- Sebastião Duarte, kumu. Taracua, Rio médio Vaupés, São Gabriel da Cachoeira-AM-Brazil.

## References

- Azevedo, Dagoberto Lima. 2016. “Forma e Conteúdo do Bahsese Yepamahsã (Tukano): Fragmentos do Espaço Di'ta/Nuhku (Terra/Floresta)”. PhD dissertation, Universidade Federal do Amazonas, Manaus.
- Barreto, João Paulo Lima. 2013. “Waimahsã – Peixes e Humanos”. Master’s thesis, Universidade Federal do Amazonas, Manaus.
- Barreto, João Paulo Lima. 2022. O mundo em mim. Uma teoria indígena e os cuidados sobre o corpo no Alto Rio Negro. Brasília: Editora Mil Folhas, IEB.
- Cruz, José Carlos Almeida. 2023. “Bahsé Ahpose. Os Ritos de Adocicamento das Águas e dos Peixes na Prática do Tinguijamento no Alto Vaupés”. Master’s thesis. Universidade Federal do Amazonas, Manaus-.
- Fausto, Carlos. 2000. Os Índios Antes do Brasil. Rio de Janeiro: Jorge Zahar Ed.
- Lévi-Strauss, Claude. 2004. O Cru e o Cozido (Mitológicas v.1). Trad. Beatriz Perrone-Moisés. São Paulo: Cosac & Naify.
- Maia, Gabriel Sodré. 2018. Bahsamori - O Tempo, as Estações e as Etiquetas Sociais dos Yepa Mahsã (Tukano). Manaus-AM: Núcleo de Estudos da Amazônia Indígena (NEAI), Editora Universidade Federal do Amazonas (EDUA).
- IPHAN-Instituto do Patrimônio Histórico e Artístico Nacional. “Sistema Agrícola Tradicional do Rio Negro/AM.” <https://bcr.iphan.gov.br/bens-culturais/sistema-agricola-tradicional-do-rio-negro-am/>.

Perrone-Moisés, Beatriz. 2004. "Traduzir as Mitológicas." In *O Cru e o Cozido (Mitológicas v.1)*, Claude Lévi-Strauss, 1-15. São Paulo: Cosac & Naify.

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