

Some Ugly Things That Nobody Studies: Provocations About Fire as a Museum Object

Umás coisas feias que ninguém estuda: provocações sobre o fogo como objeto museal

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Abstract: For centuries, objects manufactured by Amazonian indigenous populations have been collected and distributed to European museums. These have included many understudied fire-related objects. Certain categories of artifacts produced by fire or used in fire structures, such as pottery, are subject to regular analysis, but in narratives produced from these objects fire is almost absent, a mere coadjutant. Fire, however, is not limited to a secondary role in relationships, requiring an adjustment in the investigator's gaze to tell stories about people and things through time, intertwined with the story of the fire itself. This article presents results of a study of ethnographic Amazonian artifacts housed in European museums, with fire use as an investigative guiding thread. By applying the concept of family of objects to fire-related artifacts, the study intends to demonstrate how such an approach can inspire new narratives on objects that are, despite their shared relation to fire, frequently interpreted separately.

Keywords: fire-related objects; family of objects; ethnographic collections; Amazon.

Resumo: Há séculos, objetos manufaturados por populações indígenas amazônicas vêm sendo coletados e distribuídos para museus europeus, incluindo-se muitos objetos relacionados ao fogo ainda pouco estudados. Certas categorias de artefatos produzidos pelo fogo ou utilizadas em estruturas de combustão são comumente sujeitas a investigações, como a cerâmica, mas nas narrativas produzidas sobre estes objetos o fogo está praticamente ausente, sendo mero coadjuvante. O fogo, entretanto, não se limita ao papel secundário nas relações, sendo necessário um ajuste no olhar do investigador para contar histórias sobre pessoas e coisas ao longo do tempo, entrelaçadas com a própria história do fogo. Este trabalho apresenta os resultados de um estudo com coleções etnográficas amazônicas abrigadas em museus europeus, tendo o uso do fogo como fio condutor. Aplicando o conceito de família de objetos aos artefatos relacionados ao fogo, o estudo pretende demonstrar como tal abordagem pode acender novas narrativas sobre objetos que, apesar de sua relação em comum com o fogo, são frequentemente interpretados separadamente.

Palavras-chave: objetos relacionados ao fogo; família de objetos; coleções etnográficas; Amazônia.

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Introduction

By shifting conventional perceptions and focusing on an unusual study object, fire can be studied as material culture in the Amazonian past and present. As demonstrated by Gaspar and Rodrigues (this volume), the expansion of the types of objects studied by archaeologists, overcoming artificial divisions between archaeological and ethnographic objects, results in an increase of artifacts suitable for analysis, including the important addition of perishable materials not regularly found in archaeological collections. This article shares a similar approach in expanding our material of analysis to think the past and present, proposing an object-centered approach to studying the material culture of fire.

The ignition and nurturing of fire bring towards itself a wide range of objects related to various activities such as fire drills, cargo baskets for firewood, fans, brooms, torches, resins, cigars and smoking pipes. Even though fire is ephemeral, this set of fire-related things – which, in their context of use, would have little chance of preservation due to their perishable nature –, possesses greater durability when transformed into museum objects and preserved in ethnographic collections.

I have been researching Amazonian ethnographic collections currently kept at three European museums – Tropenmuseum and Volkenkunde museums,¹ located in the Netherlands, and Museum der Kulturen, in Basel, Switzerland – focusing specifically on the analysis of fire-related artifacts. Although there are many possibilities for research in ethnographic collections underexplored by archaeologists, such as stylistic and archaeometric analyses, and the identification of raw materials and trace marks, at this moment I chose to investigate musealized fire.

Fire plays an important role for thousands of indigenous and traditional populations in the Amazon, present from the interior of houses to distant cultivated fields. In indigenous agroforestry systems of food production and promotion of vegetation, fire is a fundamental element in the controlled slash-and-burn system, and played even more diverse roles before European contact.

In the current scenario, where the highest number of registered criminal fires in recent times, caused by the advance of monoculture agribusiness, threatens the very existence of the Amazon forest itself, recognizing the indigenous uses of fire can instruct us on other forms of celebrating fire apart from its destructive character (Macedo and Pereira 2020).

Ethnographic museums are repositories of indigenous knowledge, and the objects related to fire present in their collections can reveal the functional as well as symbolic and social aspects of fire use among indigenous Amazonian groups.

1 Tropenmuseum and Museum Volkenkunde are part of the Dutch National Museum of World Cultures (NMWC).

The focus of the research was less an attempt to identify the techniques used in the manufacture of analyzed objects, and more a concern with what are the fire-related objects that most stand out in ethnographic museums. This article explores two aspects thereof.

First, it considers how fire-related objects were acquired and incorporated into institutions by collectors, thereby revealing how collectors, by exercising the role of mediators between indigenous knowledge and technology of Amazonian fire and the transformation of the material elements of fire into museum objects, determined the record we presently have of musealized fire. Second, it seeks to demonstrate how an analysis directed towards the use of fire may serve as a narrative thread in the analysis of museum collections and objects that, although frequently described and interpreted separately, may be discussed in unison. Inspired by the concept of family of objects as proposed by van Velthem (2007), this study seeks to demonstrate how an analysis of artifact groups may be applied specifically to fire-related material, inspiring new narratives on objects that are, despite their shared relation to fire, frequently interpreted separately and many times also understudied.

As a first approximation to these objects, I conducted a survey on the things related to fire that are present in the databases of the two aforementioned Dutch museums. When initially searching for the keyword fire (or fire-related words) in the databases, what kinds of objects can be found?

Research in these institutions revealed that the main collector of Amazonian indigenous objects related to fire-production housed in these museums was the Polish anthropologist Borys Malkin (1917-2009). Malkin was a professional collector who sought to acquire, on his trips to South America, new pieces for European museums, as well as photographic records of the production and use of the artifacts by indigenous groups (Malkin 2007). In his letters addressed to museum curators, Malkin stated that he had formed complete collections dealing with different indigenous peoples, including ordinary objects not conventionally collected (Françoze 2017). By promoting this idea of the completeness of his collections, he created his reputation and became one of the main suppliers of Amazonian ethnographic objects to many European museums between the 1960s and 1970s.

To better understand the relationship between the objects of fire that are musealized and the impact of the choices of collectors and curators, the research was extended to the aforementioned Museum der Kulturen in Basel, a Swiss museum with a large collection of objects collected by Malkin.

What was collected?

A total of 200 artifacts (or sets) related to the production, use and maintenance of fire were studied, with 90 of these housed in the Volkenkunde and Tropenmuseum and 110 in the Museum der Kulturen. These objects, according to descriptions found on their labels and in the museums' databases, belong to eleven different indigenous peoples, from eight linguistic families and locations in the Northern, Eastern and Southern Amazon (Figure 1).



Figure 1. “Map of Amazonian region and locations of indigenous groups attributed to studied fire-related artifacts: 1-Tapirapé; 2-Bororo; 3-Guató; 4-Ka’apor; 5-Aruá; 6-Kaiabi; 7-Mamaindê (Nambikwara), 8-Rikbaktsá, 9-Shirishana; 10-Waika; 11-Wayan (map: RAISG 2020, modified by the author).

The artifacts chosen for analysis are connected to fire in diverse ways. Certain artifacts are directly related to the production and handling of fire, such as torches and lamps, pipes, cigars, and fire drills (the last which will be further discussed below). Some are connected to fire by fulfilling their functions in contact with it, such as pots² and ceramic supports

2 Although ceramics were considered in this study as part of the material culture related to fire, they were not all analyzed due to their large number. For the analysis on the family of fire, some ceramics from specific groups were selected.

for holding them in fireplaces, or by working in proximity to fire while manipulating it for its transformative powers, such as spatulas, skewers and fans found near cooking fires.

Other artifacts analyzed fall into categories which we might define as being less obviously related to fire. Some of these are important utensils in moments prior to or after fire production, such as cargo baskets used in the transport of firewood, or brooms and shovels used in the maintenance of fireplaces. Yet others depend on fire, or on its by-products, in order to perform their functions. Some examples are brushes and containers used for body painting with genipap and charcoal, or the many objects whose bodies were also created or transformed by fire, such as ceramic vessels, pyrographed gourds, and figurines made out of beeswax.

The survey in the museum databases and the subsequent artifact analysis revealed that two main categories of artifacts stood out, due to their close relationship to the production and management of fire: fire fans and fire drills.

Fire Fans

Fans are a type of fire-related object commonly found in museum collections. So far, 81 fire fans from the Amazon Basin housed in the mentioned museums have been analyzed, bringing to light specific life histories of these objects.

The diversity of shapes, sizes, manufacturing techniques and in some cases graphic patterns seen on Amazonian fans demonstrate that these objects not only perform a function of fire control, but also express notions of identity, sociality, cosmology and knowledge about nature. In addition, when interpreted with a focus on their geographical distribution, patterns can be observed. Certain regions like the Guiana Shield present a similar set of forms and graphic decorations of fire fans that are an example of the indigenous network of knowledge and practice exchanges of the region, already well documented in ethnographic studies (Barbosa 2005). The connection between cultural identities and fan types is an interesting and promising theme, seen for example in the work of Konrad Rybka (this volume).

Although indigenous Amazonian fans have been primarily discussed in terms of their connection to the realm of manioc use (van Velthem 1998) – for example, in their important use handling the manioc cake (*beiju*) on a griddle –, it is also important to think of these as fire fans and to discuss them using fire as a central point. My opinion is based on the fact that, although the manioc plant is of fundamental importance as raw material for the *beiju*, equally relevant in this equation is fire itself. It is fire which, through its transformative power, turns manioc into *beiju*, and the handling of the *beiju* is done with a fan as a direct response to the fire and its desired but dangerous heat and flames.

The close conceptual and operational relationship between indigenous Amazonian fans not only to manihot, but also to fire, was at times noticed in this study, such as in the use marks seen on some fans in the form of flour residues and burned edges

(Figure 2). The identification of these use marks also demonstrates the importance of studies which include the direct and close observation of these objects for unveiling specific life histories, since such relevant aspects are usually not easily (or even possibly) perceived by the sole analysis of object descriptions and photos found in databases.

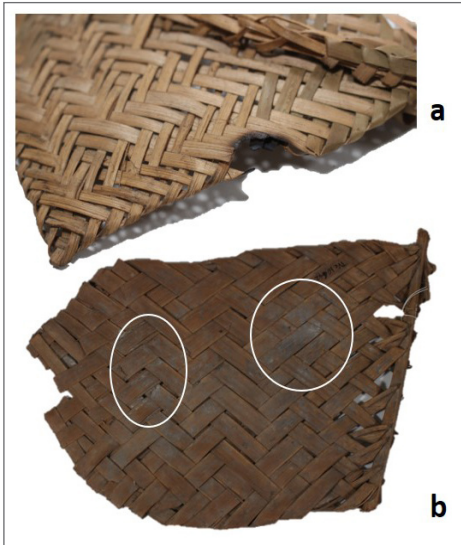


Figure 2. Fans presenting a) burn marks (IVC 12563) and b) possible flour residues (IVC 10642), demonstrating its relation to fire use as well as manihot processing and consumption (courtesy: Museum der Kulturen Basel, photos: Caroline Fernandes Caromano).

Fire drills and hearths

The second category of artifacts that stood out due to their strong relation to fire use are the wooden sticks and wooden bases used for producing fire through friction, respectively called fire drills and hearths³ (Cooper 1949; Anderson 2006). ‘Drilling’ is the term used for rotating a wooden shaft in a bowl-shaped depression on a base (also made out of wood), in order to create intense heat through friction (Anderson 2006). Although it can be done using an additional instrument to rotate the shaft, the most common method found worldwide is the plain hand drill (Cooper 1949).

The production of fire through this method is a widespread technology in the history of Amazonian indigenous peoples and, although it has been replaced in large part by non-indigenous fire starters, this knowledge is still passed along to younger generations, as I had the opportunity to see in the Southern Amazon in 2014. On the occasion, when speaking with young Asurini about the making of fire in ‘the days’ before the

3 The term ‘hearth’ is here not to be confused with its other and common use when discussing fire, where the term ‘fire hearth’ refers to a fireplace or similar structure.

use of lighters and matches, two of them showed me how to produce fire by friction using the appropriate wood species (*tata-yva* in the Asurini language) suitable for the production of fire (*tata*), all the while having fun and laughs with their demonstration of the friction technique for the production of sparks (Caromano 2018).

Unlike fire fans, which receive more attention from researchers interested in their weaving technologies and represented graphic motifs, fire drills and fire hearths are, as one museum curator provocatively told me, “those ugly things that nobody studies”. They are the archetype of the most mundane, with little aesthetic interest, inspiring few questions about the possibilities of their intended use which, after all, is specific and of a defining technical and functional character.

So far, research in the three aforementioned museums has resulted in the identification of 59 Amazonian artifacts used in the production of fire by friction, with 33 of these being fire drills and 26 hearths. It is interesting to note that no entries were found in these museums of stone artifacts used for fire production through percussion, a technique that, although less used in the Amazon, is documented for certain areas, such as in Guyana (Roth 1924, 70-71).

The variety of raw materials found in these 59 objects ranges from branches to processed wooden planks. All of these artifacts were analyzed and, despite their overall similarity, it was possible to observe differences that might be the result of technical as well as cultural choices.

Regarding wooden hearths, according to Nordenskiöld (1924 *apud* Cooper 1949, 283) the most common type found in South America are those in which the depressions are not fully pierced through the hearth. These can be further divided into two types: one type in which the hearth has a larger diameter than the drill and one or more depressions with lateral or terminal canals, in which the wood that is ground off from the depression gathers and ignites in these slots; and another type in which the hearth has the same diameter as the drill and no canals, and in this case, when drilling, the wood fragments that are released fall out of the depression and onto tinder wood placed beside it (Cooper 1949, 283-284).

Another important type of fire production on the continent uses hearths with depressions that fully pierce through the hearth, where the material ground off by friction drops down onto tinder placed below. This method is further described as using thinner pieces of bamboo and other woods, and of having a much more limited distribution (Cooper 1949, 287).

Although the collections studied cannot be considered in any form as representative of the social-cultural diversity of Amazonian indigenous peoples, these artifacts, taken as a whole, do seem to reinforce Nordenskiöld’s observations on the most common hearth types. Several of the studied objects fit into the description of hearths with canals and slots, (Figures 3-d, 3-f, bottom hearth of 3-c and top hearth of 3-j). Likewise, others may

be placed under the author's description of hearths without canals and slots (Figures 3-a, 3-g, 3-h, 3-i and bottom hearth of 3-j).

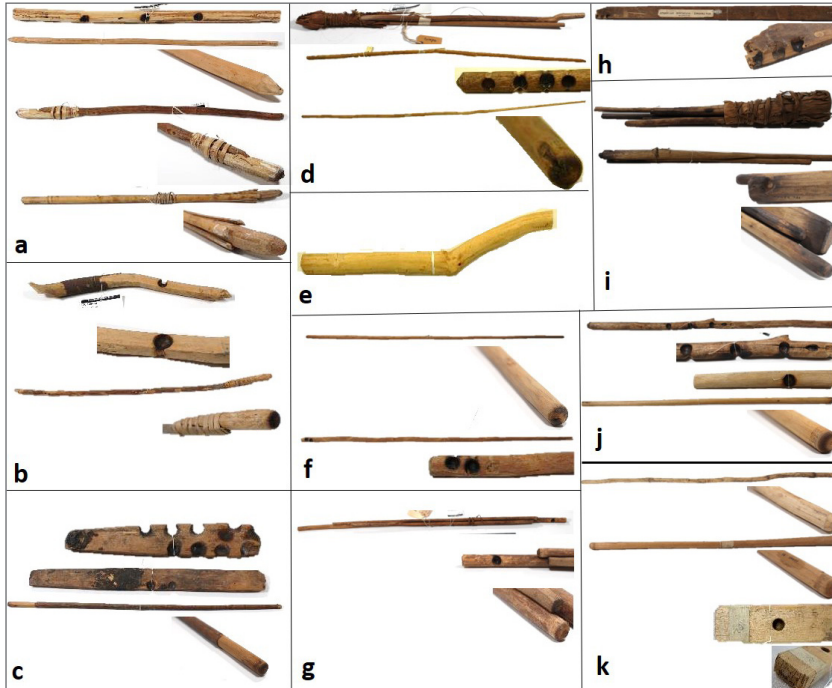


Figure 3. “Examples of fire drills and hearths analyzed. a) Tapirapé hearth (IVC 1089a), drill (1089b), and composed drills (IVC 15454, IVC 15456), b) Bororo hearth (IVC 10975a) and composed drill (10975b), c) Guató hearths (IVC 800a, IVC 801a) and drill (IVC 801b), d) Ka’apor fire set (IVC 11224a), hearth (RV-4016-209a), and drill (RV-4016-209b), e) Aruá hearth (RV-6097-31), f) Kaiabi drill (IVC 12047) and hearth (IVC 12048), g) Mamaindê (Nambikwara) set (IVC 18984), h) Rikbaktsá hearth (IVC 23223a), i) Shirishana sets (IVC 9802c, 9802a), j) Waika hearths (IVC 23198a, IVC 23199a) and drill (IVC 23199b), k) Wayana drills (IVC 9973, IVC 10009), and hearth (IVC 10430) (courtesy: Museum der Kulturen Basel and Dutch Nationaal Museum van Wereldculturen, photos: Caroline Fernandes Caromano).

None of the 26 hearths are of the ‘fully pierced type’, which is not surprising given its attributed limited geographical distribution and the fact that these collections are mostly from regions where this type does not occur. Several of the observed artifacts, however, have depressions that seem to have been so constantly or intensively used as to result in the forming of orifices which pierced the hearths (Figures 3-b and the top hearths of 3-c and 3-j). This is especially evident for the top hearth of Figure 3-c, in which at least

ten different depressions are found on the artifact, along both its edges, of which five resulted in the forming of orifices. These hearths, however, do not appear to be of the 'pierced type' as previously described, not only given their probable formation processes but also because of other aspects, such as the thickness of these studied hearths, which differ from the description of 'pierced type' hearths, made from thin pieces of wood.

The observed hearths which appear to have holes due to repeated use also contribute with new data to a question discussed at least since the end of the nineteenth century, on the durability of this type of artifact. While it has been stated that hearths are in a single use "bored about half-way through" and that the same depression "can sometimes be used twice" (Skertchly 1890, 449), indigenous peoples describe a more complex picture, from statements that each depression can be used only once to others that these can actually be used several times (Arenas and Suárez 2007, 33).

Another relevant characteristic observed during analysis of the hearths relates to their raw material since, although most were manufactured from branches, some seem to be made out of processed planks (Figures 3-h, and 3-k). The implications of this aspect will be discussed later in this article.

As for the 33 fire drills found in these museums, 28 of these are made out of a single piece of wood (single-stick drill), while 5 are composed drills (Figures 3-a and 3-b). The latter are manufactured by joining a drill-end to a longer stick, using a cord or, in the case of a bamboo piece, by fitting the drill-end into its hollow end (Arenas and Suárez 2007, 33).

There are several proposed reasons for the use of composed fire drills. The ability to carry a short piece for drilling and to connect it to a longer piece, for example the end of an arrow shaft, helps mobility by eliminating the inconvenience of carrying a long stick drill (Cooper 1949, 285) and allowing the user to select and attach this longer piece at the place and moment of use. Another reason lies in wood selection, which, alongside drilling technique, is one of the "crucial aspects for fire making" (Jiang *et al.* 2018, 204). Such selection happens not only regarding fire drills, but also their respective hearths, where harder woods may not be as desirable due to the increased difficulty of making the depressions or producing the loose fragments through friction (Arenas and Suárez 2007, 36). Although it is frequently stated that fire production through "simple rotary friction" is done using a harder wood for the fire drill and a softer wood for the hearth, the analyzed materials and existing reports show the common use of the same wood type for both pieces (Cooper 1949, 285; Arenas and Suárez 2007, 35; Jiang *et al.* 2018, 204). For these cases, a difference in hardness can be produced by placing the woodgrain of the two pieces at a right angle to one another (Skertchly 1890, 451). It has been proposed that, besides hardness, there exists "other physical, mechanical and anatomical features" for wood selection, but that these are yet largely unknown (Arenas and Suárez 2007, 36).

Some of the studied fire drills and hearths appear to be more clearly connected, for example in the case of artifacts which seem to have been collected as sets, even being wrapped together with leaves in the form of ‘toolboxes’ or ‘toolkits’ (Figures 3d and 3i), while others indicate their relationship through documents about their collecting.

Regarding these 28 single-stick drills, the great majority present flat drilling ends (Figures 3-c to 3-k), with a few presenting pointed drilling ends (top fire drill of 3-a). The pointed drills, alongside some with a flat end (Figure 3-k, for example), are also of interest due to the fact that they do not present any evidence of ever having been used. The lack of darkened burnt areas is also observed for some of the hearths (Figure 3-e and Figure 4-a and c) and presents a strong contrast when compared to other studied artifacts with use marks (Figure 4).

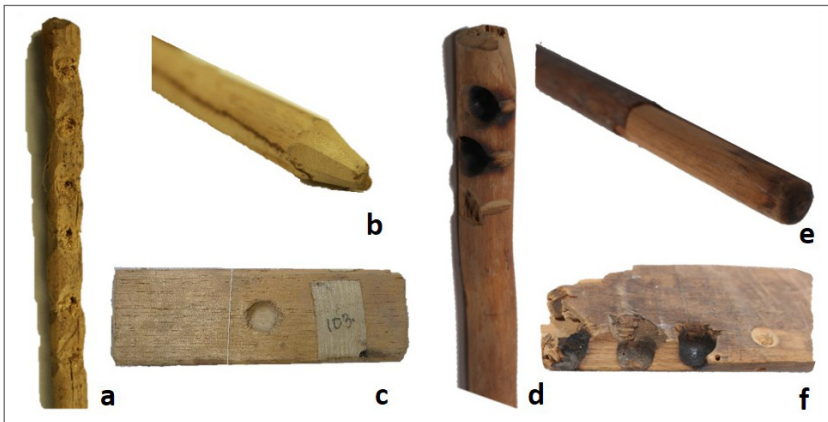


Figure 4. Comparison between hearths and fire drills without use marks a) Kaapor (RV-4016-207b), b) Tapirapé (RV-4016-34), c) Wayana (IVC 10431), and with use marks d) Kaiabi (IVC 12048), e) Guató (IVC 801b), f) Rikbaktsa (IVC 23223a) (courtesy: Museum der Kulturen Basel and Dutch Nationaal Museum van Wereldculturen, photos: Caroline Fernandes Caromano).

The fact that many of these instruments do not present use marks, as well as the aforementioned use of processed wooden planks for manufacturing some of these fire hearths, lead us to reflect upon the impact of external influences and how these fire-producing instruments can demonstrate this. In the latter case, the presence of wooden planks points to contact between these groups and non-indigenous society, or at least with other indigenous groups with access to these materials. These planks might be the result of trade, or of increasing influences of Western society, for example in the relocation of these indigenous peoples to State-managed villages and lands. In the first case, the presence of unused artifacts leads us to reflect upon the circumstances in which these were produced, with a probable influence of museum collectors in this equation.

Collecting influences

A total of seven collectors are listed for the fire drills and hearths studied, with the oldest artifact being collected in 1919 and the most recent in 2006, thereby comprising a small but relevant sample of collecting practices of Amazonian fire drills and hearths over almost ninety years.

For the objects housed at the Tropenmuseum and at the Volkenkunde Museum, there have been two collectors identified, with Borys Malkin responsible for the collection of nine hearths and nine fire drills in the 1960s, and Andreas Schlothauer for one hearth (Figure 3-e) in the beginning of the twenty-first century.

The remaining fire drills and hearths studied, housed at the Museum der Kulturen in Basel, present six identified collectors. The oldest artifact, the aforementioned hearth with many depressions (top hearth of Figure 3-c), is listed as being from 1919 and collected by Emil Hassler. In the 1960s another two individuals are listed as contributors, Barbara Brändli and Borys Malkin, alongside a couple of objects from the Weltmuseum Wien with non-specified collectors. Afterwards, in the 1970s Paul Leslie Aspelin is listed as a collector, and in the 1980s two more people, Angelika Gebhart-Sayer and Adolf Siegrist, are responsible for collecting fire drills and hearths with the most recent entries.

When looking at the contributions made by each of these individuals, the name of Borys Malkin clearly stands out. In the collection of the Museum der Kulturen Basel (which accounts for roughly two-thirds of the material analyzed), more than 30 % of fire drills and hearths from the Amazon were collected by Malkin, while at the Tropenmuseum and the Volkenkunde Museum (which account for roughly one-third of the material) he is responsible for collecting over 90 % of these types of artifacts.

Malkin frequently collected large amounts of material and from many indigenous groups, which is related to his travels directed towards the purchase of materials for museums as well as his network. This can be seen in his letters to curators, in which he speaks about purchasing already-formed collections from third parties, or how he asked colleagues to collect materials for him during their fieldtrips (Malkin 1963).

The analysis of all the fire drills and hearths collected by Malkin indicated that 35 % of them do not present any traces of use. The observation that some of these do not present use marks (which would have most likely occurred in their indigenous contexts) leads us to reflect on the contexts of their production.

Considering what is known about the relations that Malkin established with indigenous peoples in his collecting efforts (Françoze 2017), it is highly probable that these objects were made by commission. The probability that they were requested by Malkin provokes reflections about the idea of authenticity and, in view of the commercial relations established between the collector and the indigenous peoples he visited, about whether or not these items should be considered as 'less real' or 'less important'.

I, however, provocatively suggest that the fire drills and hearths collected by Malkin can be seen in a different and perhaps contrary light. Namely, I argue that his efforts in collecting fire-producing artifacts possibly stimulated the production of traditional pieces whose roles were continuously diminishing due to the introduction of non-indigenous fire starters. That is, although the larger sociopolitical systems in which collectors work are those which ultimately contribute to forms of ethnocide and genocide, the interest in obtaining these objects may have provided a stimulus for reactivating memories on how to manufacture these instruments: an act of remembering these instruments as well as the fire produced by them, which later resulted in their being brought to the confines of museums, only to be again buried deep under other thoughts and concerns, this time 'forgotten' in museum storages.

I believe that the fire sticks collected by Malkin and observed in this study are an example of how the personal choices of collectors can make a difference in the ethnographic museum record. In this case, of someone who looked at what almost no one looks at.

The Family of Fire

Because the use of fire is related to elements of material culture with great prominence in ethnographic and archaeological studies, it is often thought of in a way that is secondary to these other materialities. Fire, however, is not limited to a supporting role in relationships, requiring an adjustment in the view of the investigator to tell stories about people and things through time intertwined with the history of the fire itself (Caromano 2018). Fire transforms and promotes the landscape with the controlled opening of areas for cultivation fields or the promotion of non-domesticated plant species. Fire invites people to gather, attracting related objects. Fire is central to a series of narratives and acts in moments of encounter and negotiation with other worlds, between humans and non-humans.

Ethnographic museum collections have a myriad of fire-related objects. For its ignition and control there are fire-producing sticks and fire fans made of the most diverse materials. For food production there are objects that come directly in contact with fire, such as pots and pot-holders, and objects that indirectly deal with its desired transformative heat, such as spoons and spatulas. Fire is also present in museum artifacts in their decorations, such as in the use of wood pyrography or ceramic ash-glazing. Fire-related museum objects are also found in samples of paint, made with charcoal, for the ritual and symbolic painting of human bodies.

This last role of fire and its by-products leads us to recognize yet another important aspect of ethnographic fire, one regularly not easily visible in the museum record: in indigenous views, the experience of fire is not limited to artifacts or raw materials, but goes beyond what is physically visible. The world of indigenous fire can also be the

world of supernatural entities, which dominate and manage fire in spiritual and physical worlds⁴ and are, at times, also materialized and portrayed in drawings and sculptures.

Tapirapé families of fire

Returning to the idea that fire attracts a number of objects in different contexts of use, I propose that these ‘objects clustered in organized sets’ can be understood as a ‘family’ in a manner similar to what van Velthem (2007) proposes for the manihot plant and its ‘family of objects’. Although the understanding of the family of fire based on ethnographic collections undertaken here is not as thorough as the detailed ethnographic research carried out by van Velthem in the flour-producing houses (*casas de farinha*) of riverine communities in Acre, the exercise of analyzing the collections looking for the correlation between different objects through their relationship to fire can generate new understandings of these very objects in indigenous and in museum contexts.

Even though the collections of each museum do not constitute a formal complete set, presenting only a part of this family of objects, a broader analysis of ethnographic collections in different institutions can clarify the roles, the changes and the importance of fire families of objects for indigenous peoples of the Amazon. Based on the previously mentioned research on the collections of Dutch and Swiss ethnological museums, I decided to test how a ‘fire family of objects’ could be musealized and represented. For this, I surveyed the artifacts of the Tapirapé, a Tupi-Guarani people who inhabit an ecotone area between the Southern Amazon and the Cerrado vegetation.

This group was chosen as a study case because of the expressive number of Tapirapé fire sticks kept at the collections in Leiden and Basel. Once this prevalence was noted, I tried to verify which other Tapirapé materials associated with fire were present in these museums. In addition, the material culture of the Tapirapé, and especially their feather work, as in the case of the famous *ypé* or ‘Cara Grande’ masks, receive a lot of attention in the collections and exhibitions of ethnographic museums. The contrast between the beauty and the displaying appeal of feather works, and, on the other hand, the simplicity of artifacts related to fire, provides a good demonstration of how a new look in research can bring new information to museum discourses.

The search in the databases of Tapirapé artifacts possibly related to fire revealed fire sticks, fans, pipes, pyrographed gourds, brushes for body painting, and beeswax figurines (Figure 5).⁵

4 Among the Asurini do Xingu, for example, the burning of cut vegetation to open up swidden areas requires negotiations with *Aí*, a supernatural entity that owns the fire (Caromano, Cascon and Murrieta, 2016).

5 All Tapirapé artifacts related to fire in the collection of the Museum de Kulturen Basel and the Museum Volkenkunde were collected by Borys Malkin. In letters from 1963, belonging to the Basel Museum’s collection of documents, Malkin mentions the sending of Tapirapé artifacts to the museum (Malkin

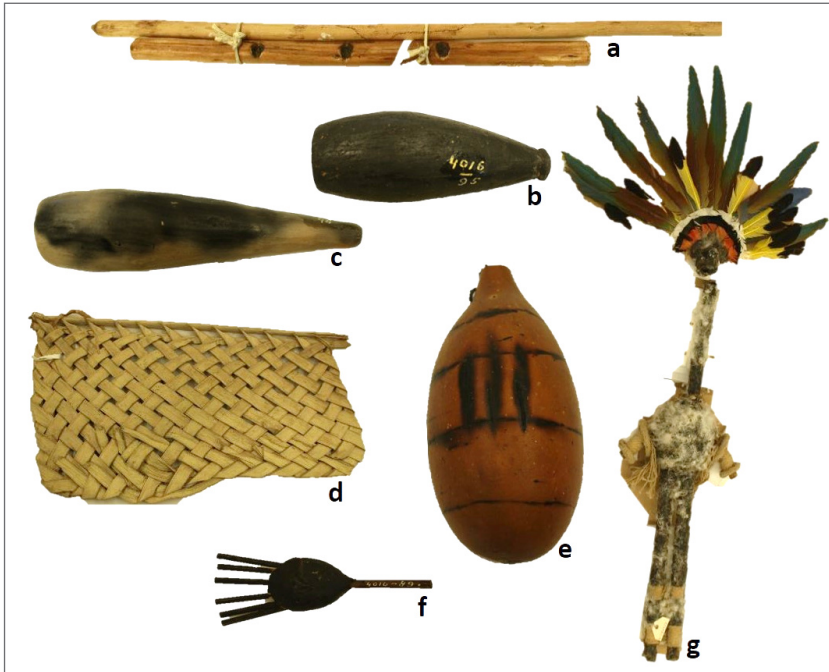


Figure 5. Artifacts present in the Tapirapé's Family of Fire; a) fire drill and hearth (RV-4016-37), b) jequitibá fruit pipe (RV-4016-95), c) ceramic pipe (RV-4171-40), d) fire fan (RV-4016-43), e) fire-decorated calabash, f) paint brush (RV-4016-89), g) Topy beeswax figurine (RV-4016-119). (courtesy: Dutch Nationaal Museum van Wereldculturen, photos: Caroline Fernandes Caromano).

As a form of complementing the material analysis, in order to understand the possible correlations between the different artifacts related to fire, in diverse contexts of use, in association with the analysis of the materials, a search on the use of fire among the Tapirapé was made in the classic ethnographies of Baldus (1970) and Wagley (1988).⁶

Fire and, particularly, the fireplace are inseparable from the house and the Tapirapé family nucleus. To it are attracted hammocks, basketry, food stored and hung to dry, pots, bowls, and fans. This fireplace is both a thing and a site; it is heat, smoke and light. Be it night or day, the fires inside the maloca are constantly revived. At night they heat up and produce smoke to provide some relief against mosquitoes, as Baldus

1963). In the documentation related to the collection of the Museum Volkenkunde (NMWC database), all Tapirapé materials related to fire have records of entry in 1964, with the exception of a ceramic pipe, with a record of purchase from 1966.

⁶ The excerpts from Baldus (1970) and Wagley (1988) present in this article were translated from Portuguese by the author.

(1970, 148-149) pointed out. During the day, as reported by Wagley (1988, 107) when observing the dynamics of a family, activities such as basketry, made by men, or the spinning of cotton by women, are done by the fire.

The interior of a traditional Tapirapé longhouse seemed at first to be utter chaos: hammocks crisscrossed, and cooking pots and other personal belongings hung on the walls and suspended from rafters. However, that chaos revealed a certain order. Each nuclear family had a specific area. The hammocks were hung in such a way that they formed a square or triangular area in the center of which was the family fire. In the same maloca each nuclear family cooked separately. Each fireplace was made with several stones placed on the floor, keeping the fire continuously burning. Husband and wife often shared the same hammock. [...] Around the hammocks, hanging from the walls and ceiling, there were baskets, gourds, bamboo containers and bags where the indigenous kept personal family objects (Wagley 1988, 103-105).

In addition to the daily household fires and the family of objects associated with it, other contexts of fire use among the Tapirapé reveal its aggregating role and social importance.

The Tapirapé society is organized by two sets of groups with relevant functions: the Bird Associations (Wuran) and the Party Groups or Eating Groups. The second group has the main function of distributing and consuming food (Wagley 1988, 127). Each group has a specific space in the village square, marked by its fire, a fire that serves as a meeting place:

At sunset, the next day, fires were burning in six places in the square, near which there were cooking pots and plates full of food. [...] Before the groups took their seats, there was a general distribution of gifts. [...] When at last, everyone settled around their pots next to Tata-upaua (fireplace), the crowd of participants was so compact that there was practically no empty space left (Baldus 1970, 330-331).

The Tapirapé objects analyzed represent a part of the family associated with the fire. The six fans collected by Malkin in the 1960s are not similar to Baldus' description of the fans made of buriti (*Mauritia flexuosa* Lf) seen in his field research in the 1930s and 1940s (Baldus 1970, 262-263), but to the Kayapó and Karajá fans made of babassu (*Attalea speciosa* Mart.) described by Krause (1911, 393). They have a diagonal checkered weave of the leaflets starting from the rachis of the palm leaf and a single-edge (clipped) or double-edge finish. The shapes vary from rectangular, square to irregular, with dimensions ranging between 43 cm x 34 cm to 24 cm x 16 cm, which perhaps indicates a more expeditious manufacturing process.

The nine Tapirapé fire drills analyzed are divided into two types: five of them are of the simple type, made with a single stick approximately 54 cm long and 1.1 cm in diameter and a sharp point, and four are of the compound type. The composite ones are formed by a short piece of wood (approximately 9 cm long) cut diagonally in order to be fitted or tied to a longer bamboo or wooden stick (in general, of a different species), approximately 33 cm long and 1 cm in diameter, forming an instrument, when the two parts are joined, of approximately 37 cm in length. The six hearths are also cylindrical

like the fire drills, but shorter than them, with an average of 33 cm in length and 1.8 cm in diameter, with one to three holes for friction, and with no lateral channels.

Still related to the context of domestic use and food, the gourds (*Lagenaria* sp.) used for storage of water or flour, and present in the collections, are pyrographed, which seems to be another element of Karajá influence, since it was observed previously (Baldus, 1970, 247) that Tapirapé gourds were decorated with engraved motifs on the surface, while Karajá gourds were decorated with fire.

The gourds decorated by fire remind us of the importance of its agency in the construction of human and non-human bodies (such as can be seen in Figure 6): whether by the direct action of burning on the bodies of objects such as gourds, or clubs and penile cases that are also adorned by small burns produced with quick touches of embers (Baldus 1970, 415), or by the transformation of foods whose consumption will contribute to the construction of human bodies.

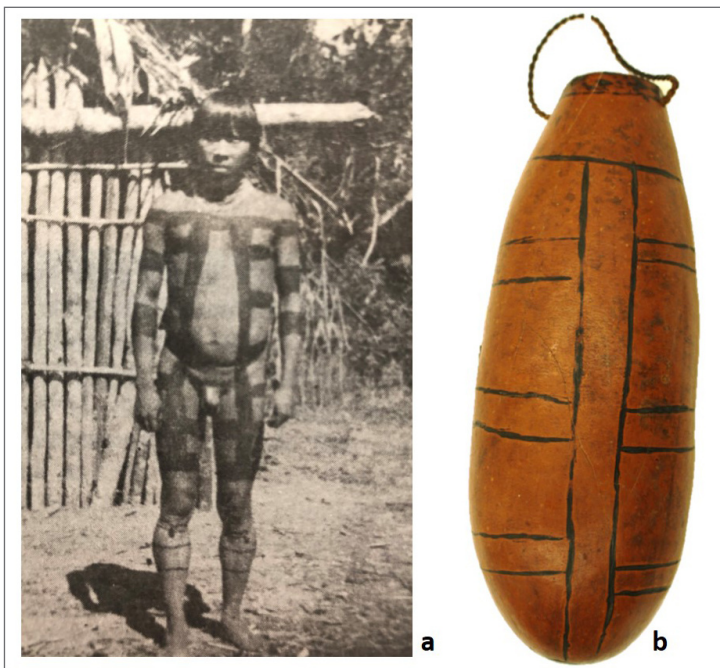


Figure 6. Decorative pattern *Cha-achawa*, or piaba fish, used in a) male body painting (extracted from Wagley 1988, 170), and similar motif in b) pyrographed gourd (RV-4016-103) (courtesy: a. Photograph from Charles Wagley Papers, University Archives, George A. Smathers Libraries, University of Florida; b. Dutch Nationaal Museum van Wereldculturen, photo: Caroline Fernandes Caromano).

Indirectly, fire, or its by-products, can act on the surface of human bodies, as in the case of crushed charcoal that serves as a kind of guide in the body paintings carried out (Škrabáková 2015; Müller 1992, 231), since the genipa paint is at first colorless and only darkens after oxidation. Although Baldus at the time of his research did not identify the use of body paint brushes, at least two rigid brushes were collected by Malkin. The artifacts, made with small stems of grasses joined with beeswax, are 10 cm long and 4 cm wide and record, at their blackened ends (Figure 5-f), stories of use and transformation of bodies through contact with vegetable dyes.

The analysis of a Tapirapé family of fire-related objects allows for the observation of not only technical aspects of the production and use of fire and fire products in different contexts, but also of the associated cosmology. Not every object in a family of fire is obviously or directly related to its production, use and maintenance.

Ethnography reveals contexts of fire use that allow us to find unusual correlations between objects previously analyzed separately. This is the case with tubular pipes made of ceramic or hard seed coats, and the Topy beeswax figurine.

The most common Tapirapé smoking pipes are made from the hard seed coat of jequitibá (*Cariniana* sp.); the ceramic tubular pipes with shapes very similar to those of the plant raw material are rarer and used mainly by the shamans.⁷ The Tapirapé collection at the Museum Volkenkunde reflects this predominance of jequitibá pipes, featuring five artifacts of this type (Figure 5-b, for example) and only one ceramic pipe (Figure 5-c).

The analyzed jequitibá pipes are (on average) 8 cm in length and 3 cm in diameter in their chamber opening; three of them have ashes inside indicating that they have been used, and two have no traces of use, and have not even undergone the internal smoothing process for finishing. The ceramic pipe measures 13.5 cm in length and 3 cm in diameter in its chamber opening, with no traces of ash inside which indicate that it has never been used.

Tobacco (*Nicotiana tabacum* L.), smoked in tubular pipes, is consumed by men on a daily basis and also has a medicinal character and supernatural powers. The shaman is responsible for treating the sick, and the act of blowing smoke over the human body is used to relieve pain and heal the spirit. The act of blowing smoke also heals non-human bodies, such as fish traps that have been contaminated by contact with electric eels, or can tame game meat in order to make it safe for consumption (Baldus 1970, Wagley 1988).

7 Wagley (1988) observed during his fieldwork among the Tapirapé that the shamans used ceramic pipes that reached 30 cm in length, while Baldus (1970) registered much smaller ceramic pipes, reaching 16 cm in length and 3.5 cm in diameter. Both authors highlighted the almost total disappearance of the manufacture of ceramic objects among the Tapirapé since the 1930s. According to them, this was due to the impossibility of accessing the clay sources (that were too close to the Kayapó enemy territory), that served as raw material.

Fire and tobacco are essential in the contact with the invisible world. The smoke from the pipes, combined with the diadem made of feathers that are red hot as fire and used during the Thunder Ceremony, are responsible for the magical transformation that enables the shaman, or that causes the ecstasy of the novice who in a dream becomes a shaman, to travel to fight Topy (Baldus, 1970, 394). After the combat, the smoke brings the shaman's soul back to his body and therefore to life.

Topy is a supernatural being, an enemy of the living, who lives on a hill full of fire at the end of the land inhabited by men. The 67 cm-high image modeled in beeswax (Figure 5-g), presents Topy's imaginary anatomy, with its long neck and spherical body covered with white hairs (represented by a thin layer of cotton) adorned with a feather headdress, and cotton armbands and anklets. He crosses the sky during storms, creating the noise of thunder and "causing, together with other evil entities, the destruction of the house of *Imanaí*, the principle of good" (Dorta 2000, 424).

Although the diadems with red feathers from macaws have not been analyzed in this study, they could also be included in the multifaceted family of fire, as well as other objects of daily use that have a relationship with the use of fire or spatial proximity to it, such as ceramic cooking pots, metal cookware or cotton hammocks. In part, the absence of these objects in the analysis is the result of a pre-selection, made by the author, who excluded objects that did not have a direct relationship with fire for their production or use (as is the case with hammocks); on the other hand, it is also the result of the collector's choices.

As stated earlier, Malkin was responsible for collecting these Tapirapé materials, and because of the choices he made, the collection did not include ceramic pots, for example. Since it was known that they were no longer produced by the Tapirapé, but by the Karajá, the ceramic cooking pots were not selected by the collector to be part of the group of artifacts that would represent the Tapirapé culture. Although this production criterion is valid, it, in a way, creates a fragmented view of Tapirapé life. The Karajá ceramics used by the Tapirapé, or even aluminum pots, adopted by contact with non-indigenous merchants from the 1950s onwards, make sense in the context of Tapirapé life, even if they result from exchanging with another group.

Incomplete families of fire

Ethnographic observations demonstrate that fire attracts a number of materials which are not all of interest to ethnographic museums, such as raw materials, wood for fire fuel, bone fragments which are sometimes used as support for pans on the fire-places, and mineral and clay fragments used in ceramic production.

The relevance of natural or non-manufactured elements and fire was once demonstrated to me during ethnoarchaeological work with the Asurini. When excavating a place that was interpreted by archaeologists as a fireplace, Kwain, a young indigenous

leader, expressed great interest when a small red mineral fragment was discovered. At that moment he quickly began explaining to us how this mineral is used for ceramic production, and how its spatial relationship with the chosen place for the excavation corroborated the archaeologist's interpretation that this was indeed a fireplace.

What is also interesting is that many of these 'natural' materials are collected in other research contexts, such as in ethnobotanical studies, and may be found in herbariums and collections of Economic Botany. Therefore, an important step in the analysis of families of objects related to fire use would be to complement acquired information with data from other institutions, and not necessarily solely from ethnographic museums.

Another aspect of the material culture of fire that is not regularly collected by ethnographic museums relates to its contemporaneous use, since many objects attracted by fire in ethnographic contexts today are industrial products and often little contemplated by researchers and museums, such as metal grills, aluminum pans and plastic lighters. The family of fire is dynamic and not stagnant, in the same manner as we have seen for some artifacts discussed in the Tapirapé case study. Therefore, families of fire can be a point through which we can discuss permanence and changes in societies and through which we can question the choices we make regarding the inclusion of new objects in ethnographic collections. If we are indeed concerned with a construction, alongside native peoples, of what it means to be indigenous and what constitutes indigenous objects, then we should incorporate modern expressions into the ethnographic museum record,⁸ and fire-related families and objects are one of the ways through which this can be accomplished.

Provoking rather than concluding

The main objective of this article was to attempt to understand fire as material culture, widening the possibilities of its investigation in the present and also serving as an interpretative source of fire through time. Considering that indigenous peoples recognize that fire is not in the past, how can we wake up fire objects that have been dormant, for at least 50 years, in the drawers of museum depots?

As a first step, it is important to look at objects under-researched and accumulated in museums – such as fire sticks – as a way of respecting the groups that produced them. This means we have to 'excavate forgotten and neglected things': forgotten because they are normally absent in the archaeological context, due to their organic composition,

8 During the analysis of the artifacts, it was possible to see the introduction of industrial material, such as aluminum pots which, at first, were not considered traditional, in more recent collections. This is the case, for example, of the Ticuna artifacts collected in the 1990s by Daniel de Vos that are part of the Tropenmuseum collection. In addition, the recognition by ethnographic museums in recent years of the importance of indigenous life in modern times is a welcome and necessary change, seen for example in the increasing number of exhibitions in these spaces of contemporary art by indigenous artists.

and neglected because, when in an ethnographic context, we look away from these “ugly things” that (almost) nobody wants to see, even when incorporated into museum collections.

The characterization of fire as a museal object is a necessary step in order to begin to question how to activate these objects, which, often made by commission, never actually produced fire. What can we do with these little-studied things, in addition to doing analysis of use marks, dimensions, raw material and researching the documentation related to the trajectories from their production, use, collecting and inclusion in the depots of museums? It is only by understanding these objects in context – that is, alongside their other ‘family members’ – that we can start to visualize old functions and new meanings for the objects and the museums that hold them.

Showcases that explore the theme of fire appear very rarely in ethnographic exhibitions in European museums. I would like to suggest that this is the result, on the one hand, of an aesthetic choice, favoring richly decorated objects and feather art and ceramics, and, on the other, of a reluctance on the part of museums to associate indigenous groups today with the idea of producers of what is commonly seen as a ‘primitive’ technology. The only exceptions that prove the rule are found in exhibitions interested in discussing fire production and technology in the context of human evolution, where we often see these items on display as the first known instruments for fire production.⁹

However, work in collaboration with indigenous peoples has shown that this idea of primitivism could not be farther from the importance of fire for these societies. A good example of how it is possible to break with this stigma is currently found in the exhibition at the Museum of Archeology and Ethnology from the University of São Paulo, Brazil. The exhibition was curated and designed in collaboration with Kaingang, Guarani Nhandewa and Terena groups (Guimarães *et al.* 2018). Among the showcases designed and the objects selected by the collaborators to portray their present, it is possible to clearly identify members of a fire family: a set of pots, fans, spoons and tweezers in front of a panel with photographs of a fireplace. The developing of collaborative efforts such as this in museum spaces demonstrates the central roles that fire plays in societies and how, through Western thought, these aspects have been continuously downplayed and hidden away.

Finally, I lay down a provocation here, an incendiary suggestion, if you will: what would be the limits of preservation and conservation in museums for these types of objects? Would it be possible to hold workshops with the indigenous groups that produced and used them? Testing if they really work well, or if they were made just for

9 Fire can be, occasionally, the main theme in science exhibitions, such as was the case in the *Feu!* exhibition held at Paris’ Cité des Sciences in 2018-2019.

the collector, expeditiously? Would it be desirable to activate them, mark them irreversibly with the ignition of the fire, or leave them as they are, unscathed?

Collaborative practices of loaning museum objects to descendant communities have shown that common concerns about the risk of doing damage to objects are overrated and that, at times, these objects have been returned to museum deposits in a better state than when they left in order to be used in ceremonies, due to restorative acts by members of these communities (Rosoff 2003). With this in mind, perhaps a similar approach can be made for fire-related artifacts. Could be this a way of rescuing these materials from the dormancy in which they are found in the museum depots, and returning them to life? Why not?

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