

Remembering Droughts and Abundance Ecological Memory in the Semi-arid Region of Northeast Brazil

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Résumé de l'article

À Floresta, un village de la région semi-aride du Nordeste brésilien, le passé est considéré comme une époque de plus grande régularité du climat, de plus grande richesse naturelle du biome de la Caatinga et de plus grande solidarité entre les habitants de la zone rurale de la ville. Les souvenirs de certains événements historiques peuvent renvoyer à un « d'antan » dans lequel l'« abondance », malgré les calamités générées par les sécheresses tout au long de l'histoire de l'occupation de ce territoire, est considérée tout de même comme l'un de ses principaux attributs socio-écologiques. Dans le contexte des violentes transformations climatiques de la contemporanéité, l'analyse des actions de la mémoire sociale et collective parmi les habitants les plus âgés de la région semi-aride brésilienne sera une manière de questionner ethnographiquement l'histoire des sécheresses à laquelle toute l'écologie de cette région a été réduite par l'historiographie et la littérature nationale. L'analyse sera aussi une manière de questionner la centralité humaine de la mémoire moderne ; centralité qui est encore aujourd'hui un paradigme théorique déterminant des études de la mémoire sociale et culturelle en anthropologie. À cette fin, les mémoires de la sécheresse et de l'abondance seront articulées au concept de « durée » du philosophe français Henri Bergson, dans le but de penser la durée du temps et de la mémoire comme une manière écologique de vivre le passé, le présent et l'avenir.



Remembering Droughts and Abundance

Ecological Memory in the Semi-arid Region of Northeast Brazil

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Abstract: In Floresta, a municipality in the semi-arid region of Northeast Brazil, the past is considered a time of greater regularity of the climate, natural wealth of the Caatinga biome, and solidarity among the residents of the city's rural area. Memories of certain historical events can refer to an 'ancient time' in which 'abundance,' despite the calamities generated by droughts throughout the occupation of this territory, is considered one of its main socio-ecological attributes. In the context of the violent climatic transformations of contemporaneity, analyzing the actions of the memory of old inhabitants of the Brazilian semi-arid region will be a way of first, ethnographically questioning the history of droughts to which the entire ecology of this region has been reduced by historiography and national literature; second, inquiring the human centrality of modern memory—still today a defining theoretical paradigm of social and cultural studies of memory in anthropology. To this end, memories of droughts and abundance will be articulated with the concept of "duration" (*la durée*) of French philosopher Henri Bergson to think of memory and the duration of time as a way of ecologically living the past, the present, and the future.

Keywords: ecological memory; temporality; abundance; duration; drought; Brazilian semi-arid

Résumé: À Floresta, un village de la région semi-aride du Nordeste brésilien, le passé est considéré comme une époque de plus grande régularité du climat, de plus grande richesse naturelle du biome de la Caatinga et de plus grande solidarité entre les habitants de la zone rurale de la ville. Les souvenirs de certains événements historiques peuvent renvoyer à un « d'antan » dans lequel

l'«abondance», malgré les calamités générées par les sécheresses tout au long de l'histoire de l'occupation de ce territoire, est considérée tout de même comme l'un de ses principaux attributs socio-écologiques. Dans le contexte des violentes transformations climatiques de la contemporanéité, l'analyse des actions de la mémoire sociale et collective parmi les habitants les plus âgés de la région semi-aride brésilienne sera une manière de questionner ethnographiquement l'histoire des sécheresses à laquelle toute l'écologie de cette région a été réduite par l'historiographie et la littérature nationale. L'analyse sera aussi une manière de questionner la centralité humaine de la mémoire moderne ; centralité qui est encore aujourd'hui un paradigme théorique déterminant des études de la mémoire sociale et culturelle en anthropologie. À cette fin, les mémoires de la sécheresse et de l'abondance seront articulées au concept de «durée» du philosophe français Henri Bergson, dans le but de penser la durée du temps et de la mémoire comme une manière écologique de vivre le passé, le présent et l'avenir.

Mots-clés : mémoire écologique; temporalité; abondance; durée; sécheresse; semi-aride brésilien

*Dedicated to the memory of José Gregório Ferraz,
Cirilo Alves Diniz and Antônio José do Nascimento.*

Introduction

In Floresta,¹ a municipality in the semi-arid region of Northeast Brazil, the past is said to be a time of greater regularity of the climate, the natural wealth of the Caatinga biome, and solidarity among the residents of the city's rural area. From the perspectives of different generations of people, among whom I have been carrying out fieldwork since 2016, the regularity of the climate between the dry and wet seasons, the preservation of natural wealth, and the maintenance of order in social and community life in the rural area of Floresta compose and represent the memories that people have and create of the history of their homeland. But what happens to the world when the past no longer corresponds to the present or when society and nature change to the point of making the past a completely different time?

Although the memories of rural life of my research interlocutors can be thought of, for example, as structurally nostalgic (Herzfeld 2005), the result of processes of historicization (Le Goff 1996) or the construction of folklore (Bakhtin 1981) and national identity (Nora 1989), my objective in this article,

in turn, is to elaborate on the memory of old country cowboys as an ecology with which they act and locate themselves in the present. In the wake of work on “eco-nostalgia” (Olivia and Angé 2021), “socioecological” memory (Lyons 2019), “memoryscape” (Ullberg 2013), memory, place and landscape (Basso 1996; Ingold 2000; Stewart and Strathern 2003), biodiversity memory (Nazarea 2006), “topographical mementos” (Hastrup 2013) and “insurgent” ecological memories (Villela 2020a), my hypothesis is that memory is an ecologically creative act, according to a multiplicity of temporal rhythms concerning especially ‘country life’² (*vida no campo*).

Vida no campo is the ecology informed by the ancestral memory of cowboys, ranchers and farmers. Ecological memory, therefore, is made up of historical relationships between humans and herds of cattle, goats and sheep, with predatory animals, with hunting, pack, and locomotion animals, with the enormous number of birds in the Caatinga, with the varied species of plants and trees, with the territory, with the climate and with the varied social attributes of the waters. Collected between 2016 and 2017, on three separate visits to the municipality of Floresta, my ethnographic material, however, does not result from daily immersion in one or more “traditional” rural communities. My master’s and doctoral research (Pereira 2017, 2023) was mainly dedicated to the social dynamics of oral history and narrative, visiting and getting to know different farms, regions and communities in the municipality, mainly to listen, write and record memories and the stories of the old cowboys in different contexts of that location.

Catingueiros cowboys such as Cirilo Alves Diniz (Lagamar ranch), Antônio Izidório (Das Baixas ranch) and Genézio de Nato (Lucas ranch), about whom I will talk again in the following sections, were horsemen who were distinguished by their skill and dexterity in the Caatinga biome, by their broad social prestige and by their *métis*, as I have already analyzed in another work (Pereira 2020a). The body of the *catingueiro* cowboy is forged in the cattle race amid the tortuous and thorny vegetation of the Caatinga, circulating in spaces, times and worlds where *criadores* (goat breeders) and *criações* (goat herds) do not circulate. Furthermore, many *catingueiro* cowboys are also wise “storytellers,” in a sense very close to the narrative art of creating and “exchanging experiences,” according to Walter Benjamin (1987). Unlike the Benjaminian “storyteller,” the cowboys have memories of certain “multispecies” relationships (Rose 2012; van Dooren et al. 2016) many of which, today, no longer exist in the social, cultural and environmental universe of Caatinga, for the most varied reasons:

several droughts, deforestation, desertification, land enclosure, urbanization, modernization of the economy, silting of rivers, pollution, construction of dams and hydroelectric plants. Due to the ruptures and transformations of the rural universe, under the social and economic circumstances of the present, cowboys can no longer live in the *mato* (bush)—as *matutos* -, or in the Caatinga—as *catingueiros*—like they used to, but their memoirs seek to respond creatively to these changes.

Diving into how cowboys mnemonically interpret the radical transformation of their craft over at least the last 50 years, I sought to understand different realities and regions of the municipality, both in the countryside and in the city, with the aim of analyzing the historical and traditional forms of ‘being a cowboy’ (*ser vaqueiro*), but also the forms under which they still live and recognize themselves today, namely as ‘country men’ (*homens do campo*). Another reason why I pay attention to the memory of *vida no campo* is that, in Floresta, in general, families tend not to sell or dispose of the properties that belonged to their parents, grandparents and great-grandparents. If there is someone who can still inherit, care for and work on their family’s land, people seek to preserve their heritage and places of origin.

In addition to the old cowboys mentioned above, there is the peculiar case of Zé Ferraz³, in the second section of this article. Although he was never a cowboy, centenarian Zé Ferraz had good memories of when he lived and worked on the Ema ranch, a territory where certain segments of the traditional Ferraz family came from. Ema ranch gave rise to several renowned families in the state of Pernambuco’s backlands (*sertão*), influential in the political structure and the official history of several districts and municipalities (Marques, 2013; Villela, 2004). Some of the first people I had contact with in 2016 were members of the Ferraz family, such as Maria Amélia de Souza Araújo, who has now become a friend, but is also the hostess and interlocutor in this article. People like Zé Ferraz and Maria Amélia, who have lived in the city for many decades, but were born and spent their youth on the farm, are important for ethnographic analysis because they keep their kinship ties and memories of social, cultural and sometimes economic coexistence with the Ema ranch and the *vida no campo* alive.

Through the memories of my interlocutors, different temporalities will be created and analyzed in this article, through which we will see the disturbing rhythm of droughts coexisting with the temporal system of ‘abundance’ (*fartura*).

As a core native category, the analysis of ecological memory as it pertains to ‘abundance’ will constitute an original contribution to anthropological debates about time, temporalities and memories in rural contexts in the Brazilian semi-arid region (Alves 2021; Marques 2013; Nelson and Finan 2009; Palmeira 2002; Villela 2015, 2020b). It will also contribute to ethnographies that are dedicated in some way to the processes of creating temporalities and memories in contexts of planetary ecological crisis. The ecological meanings that can be attributed to memory have the power to multiply the ways of conceptually thinking about the relationships between social time and seasonality, culture and nature, past and present, local memory and ecological crisis, poverty and prosperity, between the given world and the world to be done.⁴ Not making the semi-arid region a world of droughts, scourges and absolute abandonment as has been perpetuated by national literature (Cunha 1927) and Brazilian social thought (Furtado 2007 [1959]), the memories of drought and abundance in the Caatinga environment, instead of respecting the myth of the semi-arid region as a place of death, will constitute an “ecology of the mind” (Bateson 1987), an “ecosophy” (Guattari 2000 [1989]), more appropriately, an “ecology of life” (Rose 2012). From this vitalist perspective, the memory of the cowboys will be a way of questioning the human centrality of modern memory, still today a defining theoretical paradigm of social and cultural studies of memory in anthropology. To continue renewing a certain theoretical critique of the “culturalization” of human memory (Berliner 2005), memories and times of droughts and abundance will be articulated in this article using French philosopher Henri Bergson’s concept of “duration” (*la durée*) to think of memory and the duration of time as a way of ecologically living the past, the present, and the future.

Caatinga and its Temporalities

In the semi-arid region of Northeast Brazil, summer is dry, lasting five to eight months. Winter is rainy, with four to seven months of irregular rainfall in time and space. The season’s highest rainfall indices are usually between February and April. On the one hand, drought signifies the reduction or delay of rainfall expected for a certain period of the year; on the other hand, ‘drought time’ (*tempo da seca*) means the chronic version of a lack of rain over an extended period, causing ecological, economic, and social imbalances, in addition to promoting a complete sense of “uncertainty” among the inhabitants of the region (Pereira, 2020b; Taddei, 2017; Teixeira, 2019). Despite the social and economic calamities generated by the region’s ‘great droughts’ (*grandes secas*)

over the centuries (Albuquerque Jr. 1995; Lucchesi 2017), from the perspectives of my interlocutors, ‘abundance’ is considered one of the main socio-ecological attributes of a temporality they generically refer to as ‘ancient time’ (*tempo antigo*). With the aim of displacing the homogenizing perspective of linear and successive time perpetuated by Western thought, the affective bonds of cowboys with the past and with the ecologies of ‘old time,’ as will be analyzed in the following sections, produce a myriad of “original temporalities,” according to Iparraguirre (2016), guided by particular “cultural rhythms.”

Times and Memories of Abundance

In 2016, my interlocutor and friend Maria Amélia de Souza Araújo, her cousins, Janeide de Souza Pereira Diniz and Gilson de Souza, and I paid a visit to Antônio José do Nascimento, known as Antônio Izidório, at Das Baixas ranch, a property located in the municipality of Serra Talhada, approximately 90 kilometres from Floresta. Maria Amélia and her cousin Gilson were interested in the cowboy’s stories and knowledge about a common ancestor—also a cowboy and named Antônio—and great-great-grandfather of the two cousins, Antônio da Costa Araújo, better known as Totonho do Marmeleiro.⁵ Together, we tried to motivate the old cowboy, Antônio Izidório, 99 years old at the time, with the help of his son, Manoel, to talk about and recall the memories of his 56 years of ‘cowboy life’ (*vida de vaqueiro*) at Açude Grande ranch, the former headquarters of Das Baixas ranch, owned by the cattleman for whom their family worked for many decades.⁶ To the joy of Maria Amélia and Gilson, Antônio Izidório remembered the stories about the legendary ancestral cowboy (Totonho do Marmeleiro); however, what he remembered above all was the ‘abundance’ that encompassed the world lived by the ancients, with special attention to the ‘ancient time’ during which he lived on Açude Grande.

In the ‘ancient time’ described by the cowboy and his son, ‘abundance’ was an attribute of the world. Father and son remembered, for example, how large the oxen were, how numerous the cattle were, how extensive the land at Açude Grande was, and how much and what kind of food was on the table. As the elderly get closer to their historical experiences, their eyes turn to animals and herds, to how to name and count them, to rivers, creeks, streams, to the climate, to the great rains, and the great quantities and qualities of milk and food. “Açude Grande,” according to the cowboy’s son, “was a rich farm. There were a lot of cattle! I saw my mother make butter cheese and put it on the table for us to eat.” Finally, the centenarian cowboy added: “There was a lot!

Nowadays, we buy that little piece of cheese on the street... Use it for nothing! It is no longer as good as it used to be, no! At first, it was pure butter!”

Maria Amélia later explained to me that the houses of her maternal and paternal grandparents on Ema ranch, for example, were the ‘houses of abundance.’ “They were the houses that had everything, the rich houses,” she said, as they were the homes of families with more possessions and supplies than her nuclear family. Therefore, ‘of abundance’ may have been a house, such as a *casa de fartura*, but ‘of abundance’ may also have been a certain ‘time,’ such as the ‘time of abundance’ (*tempo de fartura*), a contemporary time to Amélia’s childhood (at that time aged 56 years) at Ema, contemporary to the youth of Manoel, Antônio’s son, and certainly closely related to the life of the centenarian cowboy at Açude Grande. The more remote the ‘ancient time’ is, the more it seems to differ ecologically from the present, since ‘abundance’ was available to its inhabitants in the past.

‘Abundance’ is a way of attributing qualities to beings and things in their own time and places, giving social, cultural, economic, and environmental meaning to past times and places (Basso 1996). But how can ‘abundance’ be translated? *Fartura* has to do with more rain, more food on the table, a good harvest, good pastures, more herds, while the present, on the other hand, has to do with the “facilities” (*facilidades*), which, according to Teixeira (2019), who writes about the Ceará’s backlands, is related to having more savings, money, work, modernization, and material wealth. According to Cavignac (2009), who writes about the Seridó’s backlands (another Brazilian Northeast state), oral tradition and memory are capable of reinterpreting the past, bringing to knowledge “an invisible reality that is revealed in the word” (Cavignac 2009, 70). As Antônio Izidório and his son look to the past and to everything that once composed their lives, they can no longer recognize in ‘today’s time’ (*tempo de hoje*) what they saw and lived in the ‘ancient time.’ The old times, when touching and relating to ‘today’s time,’ makes visible how things (pastures, herds, food, harvest, etcetera) are transformed historically and ecologically, disturbing the lines of continuity between the ways of living in the past and the contemporary ways of ‘cowboy life’ (*vida de vaqueiro*) in the cities.

The category of “time” and its multiple collective senses have been thought of by anthropology from the perspective of its social morphology (Evans-Pritchard 1939, 1940; Hubert 1904; Mauss and Beuchat 1979), its cultural production (Bourdieu 1963; Geertz 1973), and its symbolic structures (Lévi-Strauss

1952, 1968). In the 1980s and 1990s, other works consolidated around the social construction of time (Fabian 1983; Gell 1996; Munn 1992), considering the processes of acceleration, transformation, technification, and modernization of the daily life of distinct cultures and societies. Through certain notions of time, my research informants also create different views on historical events in Floresta and even in national history, making this kind of generic temporality of *tempo antigo* a nonhomogeneous way of apprehending time.

Tempo antigo, for example, is related to the ‘drought of 1915’ and the ‘drought of 1932,’ as we will see in the following section; or else, as analyzed by other anthropologists who have carried out research in the semi-arid region of Pernambuco State (Marques 2013; Marques and Villela 2016), local memory of the “ancient time” can go back to the “time of politics,” the “time of the fight,” the “time of the courts,” the “time of carrancismo (severity),” the “time of Lampião” or the “time of cangaço,” a phenomenon of rural banditry and nomadism that emerged in the backlands of Northeast Brazil at the end of the nineteenth century. According to these two authors, through memory, people of the backlands seek to “display their detailed knowledge about events or exceptional aspects of their life” (Marques 2013, 717), from which, according to Villela (2015), the past appears as a “way of ratifying present behaviors,” defining, on the one hand, the “time of abundance,” and, on the other, “the time of excessive moral rigor, drought, abandonment, violence, ignorance or, in a word, *atraso* [backwardness]” (Villela 2015, 18; my emphasis). From the perspective of this author, in the relationships he observes between family and politics, the past functions simultaneously as a “moral model or ideal,” but also “the place from which one must escape” (Villela 2015, 7).

In this regard, the *fartura* of the old times described by the cowboy Antônio Izidório and his son, Manoel, as previously mentioned, coexists with these times of conflicts, banditry, droughts, poverty, difficulties, and tribulations of the past, revealing the antiquities and ambiguities of the time. But, more than that, the cowboy’s nostalgic way of remembering the old times raises reflections on “environmental futures” (Mathews and Barnes, 2016), “deep time” (Ialenti, 2020), and “ecological nostalgia” (Angé and Berliner, 2021). The “ecological nostalgia” of the Waorani people analyzed by High (2021) in the context of the Ecuadorian Amazon, in his chapter published in the collection edited by Angé and Berliner (2021), is a memory that gives life, body, and timeliness to the past as a “place of abundance,” according to him, an environmental place threatened by the predatory and colonizing practices of capitalism (High 2021, 93).

In the context of modernization, economic development, droughts and desertification of the Brazilian semi-arid region, the old cowboy memories express themselves as “ecological nostalgias” that create a certain “sentiment of loss” (High 2021), transforming and actualizing the reality lived by them today. However, from the perspective of Bergsonian memory theory, the past is never lost and never dies. The approximations between ecology and nostalgia in my ethnographic case have a close connection with *la durée*, a Bergsonian concept defined by Pedersen “not as an extensive spatio-temporal container within which events chronologically happen (i.e., as linear time), but as a dynamic field of potential relations without beginning or end, from which the present is actualized” (Pedersen 2012, 144).⁷ Among the cowboys, the times and memories of abundance organize, compress, and actualize the cosmos, the world, and the ecology of places, people, spaces, and living beings, giving reality to the images and things with which the old people create their vast (and virtual) repertoire of memories. In this repertoire, as we will see in the following section, abundance and life coexist with memories and temporalities of droughts and death.

Times and Memories of Drought

On 18 March 2021, during the time of the pandemic, Maria Amélia sent me a voice message on WhatsApp. She had visited some relatives. “I talked to Zé Ferraz, and without planning,” she said, “he got into the subject of drought. He told me that the last great rain here was in 1978. Can you believe it?” Maria Amélia was amused by her uncle’s statement, extolling with joy and satisfaction the material she had acquired for my research⁸. Although she calls him ‘uncle,’ José Gregório Ferraz was a ‘legitimate cousin’ (first cousin or *primo legítimo*) of Maria Amélia’s paternal grandfather, João Regino. Having obtained Zé Ferraz’s thoughts and words at that time was cause for much celebration: a little more than two months later, on 29 May 2021, Zé Ferraz would turn 99 years old. Anticipating congratulations on her visit, Maria Amélia felt quite happy to know, after so many months without being able to see him due to the COVID-19 pandemic, that her uncle was well, in good health, and that, despite his age, he was quite conversational, putting to work the ‘good memory’ (*boa memória*) for which he was so well-known and respected.⁹

Zé Ferraz lived in the rural area of the city of Floresta as a boy, having experienced some ‘great droughts’ that occurred in the past at Ema ranch, on his and Maria Amélia’s farm of origin. According to Zé Ferraz, the cruellest droughts of his childhood were the great droughts of 1915 and 1932. From the

first great drought, which occurred before his birth in 1922, Zé Ferraz had only retained what he had heard from his parents and grandparents. His memories of the second great drought, in 1932, when he was only ten years old, include an image he could never forget.

MA: Uncle, what does your memory bring from droughts, especially when you were younger? What do you remember about droughts?

ZF: Nothing.

MA: Have you no memory, uncle?

ZF: I only have the images!

MA: And what were these images like?

ZF: Thin cattle falling, cows almost dying, without having anything to eat.

In constant movements of rise and fall, vitality recovery and loss, after a long struggle to survive in the droughts, cowboys had to put cattle out of their misery. In this context, hungry animals were in agony until their death. Here is the first image that the drought memory of Zé Ferraz rescues from his childhood at Ema ranch: “The bovine died almost entirely!” The second image of the ‘drought of 32’ rescued by his ‘good memory’ relates to goat herd resilience compared to cattle resilience in times of severe droughts. “Only goats escaped the drought of 1932,” Zé Ferraz said. Goats are recognized for surviving in the Northeast semi-arid region of Brazil by feeding on native vegetation without necessarily needing the sprouted pasture of rainfall and intensive human zeal. Finally, more resistant to drought than cattle and livestock, there are people in their way. From the past brought by the memory of Zé Ferraz, Maria Amélia became interested in a boy’s experience with the plants, animals, people, and forests of Caatinga, imagining that he was between life and death in the ‘great droughts’ of the past.

Little by little, the memory of Zé Ferraz began to compress the present, making the past emerge in another way on the current surface of historical events. When Zé Ferraz says that he has “only the image,” for example, that image is not a representation of the past. Turning into a dynamic and living memory, the past of the ‘great droughts’ starts compressing, unfolding, and changing the perception of the times. Actualized, once again, *la durée*, in this case, is never lost and never dies, since the past is the virtual force that enriches the present and the future. As stated by Hyppolite (1949), “memory” in Bergson “is the synthesis of the past and the present with a view to the future” (Hyppolite

1949, 373), therefore, memory has the function of enriching and actualizing our perceptions in addition to motivating “the determined conditions of effectiveness of our action in the world” (idem, 375). Ethnographically, as in the case analyzed by Lambek (2002) about the Sakalava of Northeast Madagascar, Zé Ferraz had to “bear” the “weight of the past” not as a sentiment of loss or a representation, but as a practical, bodily and ethical experience, aiming to guarantee in the present a safe journey towards the future, after all: “Rather than simply feeding on the vitality of the present, the past provides possibilities for living authentically and with dignity.” (Lambek 2002, 9).

In the context of the planetary ecological crisis, the Pajeú River and Navio Creek were dead. Pajeú is the river with the largest river basin in the state of Pernambuco and is an affluent of the São Francisco River, the largest river located entirely in national territory. The Navio Creek is an intermittent watercourse and an affluent of the Pajeú River—the two watercourses that are part of the memory and identity of the inhabitants of Floresta. Despite the technologies and the infrastructure constructed by the government (if we consider all the São Francisco Hydroelectric Complex installations in the region), for Zé Ferraz and many other people, droughts have now become increasingly severe, prolonged, and destructive. According to him: “Drought is increasing! Streams, creeks, and rivers are ending. Does the Pajeú River have those floods? Does Navio Creek have those ebbs? No one has ever seen them full again... Right here, nobody hears thunder or lightning anymore; you do not see any more raindrops.” For him and many other people, perceiving and being aware of all of this ecology of death is an ethical way of positioning yourself in the present. Similar to the narratives of Antônio Izidório and his son, as we saw in the previous section, the perceptions of dead rivers, creeks, and streams made by Zé Ferraz suggest that ‘today’s time’ and the ‘ancient time,’ despite all the differences between them, are temporalities creatively connected to each other. The present makes the past the moving and living force that reserves for memory a place in the future, even in the current context of the climate crisis.

Memory and Ecological Crisis

Drought Without Abundance

When I arrived in Floresta for the first time in February 2016, they had had a drought since 2012. Rural workers hoped that the rains at the beginning of the year would continue to fall for a few months. But the rain fell in January, a small amount fell in February and nothing fell in March. Many lost what they

had planted. The bean and corn fields were gone, the pasture was running out, and so was hope. In the first week of March 2016, I stayed at Lucas Ranch, in the home of cowboy Genézio de Nato, who was 80 years old at the time. Neighbours, friends, and relatives dropped by daily. People said that if it did not rain in the next few days, everyone would lose what they planted, and the cattle would starve. In a conversation with Luzia (his wife) and Damião (his employee's husband), Genézio highlighted that the drought and dead fields were punishments from God. The cowboy's wife and Damião fiercely refuted the cowboy's position, who continued saying: "But it is not punishment? If it is not punishment, what is it? Since when have we had a drought like this? That never existed!" For Genézio, the drought at that moment was nothing like the droughts of the past, of his childhood and youth or the times of his ancestors.

In the same year, in a conversation about the '2012 drought' with another old cowboy, Cirilo Alves Diniz,¹⁰ owner of Lagamar ranch, I heard the following expression come out of his mouth very sharply: "It's a disgrace!" (*Desgraçou-se tudo!*). At the time of our last meeting, the '2012 drought' had caused the death of five dozen heads of his herd. Also, Cirilo deeply regretted the Pajeú River situation where, in certain regions of Floresta, there was no more water, no fish, no fishermen.

In the past, in the Pajeú River, there were too many fish. Today, it's over. They no longer exist. In the old days, we put 25 or 30 fishermen in the reservoir, and they packed a truckload of fish. It was fiiiiiiish! All of this happened in the past: abundance. There is no more of this abundance today!

As we have seen since the beginning of this article, although those who most and best remember the 'abundance' of 'ancient time' are the older people, their memories are not old, merely local traditions or immutable historical representations. Their memories are actual ecological attitudes, prospecting, creating, and transforming the perception of reality. Remembering things is a contemporary and ecological way of feeling and living through the planetary environmental crisis. Remembering droughts and abundance is a way of feeling and living the current environmental transformations of Caatinga, a biome threatened by extreme droughts and the increasingly severe desertification of recent decades.¹¹

The vulnerability of the Caatinga biome is what informs the memory of the cowboys in an ambivalent way: in the past, there was the contradictory

coexistence of drought with ‘abundance,’ informing particular ways of thinking about “time,” on the other hand, in the present, we can see the limit of this temporal thinking, with the permanent situation of the ‘2012 drought’ causing the death of everything that once represented ‘abundance’ in everyday life (the great rains, the great harvests, the large herds, the bountiful pastures, the lush green Caatinga, the production, the abundant life of the *catingueiro* cowboy, that is, the country life as a whole). Although ‘abundance’ can be translated into the economic aspects of rural production, it cannot be reduced to the meanings of material wealth and accumulation. More than that, *fartura* seems to connect with what Rose (2012) called “ecology of life,” a vitalist concept that has a strong association with memory.

Duration

Henri Bergson called “true duration” the conservation of memories and images in the existence of living beings. For the philosopher, “true duration is the clearest thing in the world: real duration is what has always been called time, but time perceived as indivisible” (Bergson 2014, 106). Defined in other words, “duration” is the indivisible continuity of time change. In addition to lasting and remaining in the form of the past, time also changes without ceasing in the instantaneous form of the present. With its fringes bordering the openings of the world, memory conquers from the past the future that will still be created and lived. To follow Deleuze’s (2012) argument, it is necessary to consider the double articulation of memory, according to the “movement by which the ‘present’ that lasts is divided at each ‘instant’ into two directions; one oriented towards the past, the other contracted, contracting towards the future” (Deleuze, 2012 [1966]: 4344). If the transformations of time are the most lasting in living things, it is because duration is the “real and even constitutive change of reality” (Bergson 2014, 107). Memory is moving, living, and full, but it does not refer to an external natural world isolated from the social and cultural universe. In this way, according to Bergson’s philosophy, memory is not an exclusively human attribute. There is a planetary approximation of memory with the singular existence of living beings, because consciousness is an attribute coextensive to life.

In his work *Creative Evolution*, Bergson develops the following argument:

As the smallest grain of dust is bound up with our entire solar system, drawn along with it in that undivided movement of descent which is materiality itself, so all organized beings, from the humblest to the highest, from the first origins of life to the time in which we are, and in

all places as in all times, do but evidence a single impulsion, the inverse of the movement of matter, and in itself indivisible. All the living hold together, and all yield to the same tremendous push. (Bergson 1944, 295)

For Bergson, according to Flynn (2021, 159), the tremendous push or the *élan vital* is “a generative and creative impulse that actualizes life in unexpected and unknown directions.” But I would add that, according to Bergson, all the past of living beings can be incarnated in the musculature and matter of their body. Because of this occupation of memories in materially lived acts, a given existence is complemented, enriched, and transformed in the very course of its duration and existence. Between the acting and reacting of a living body, the whole universe of its memory can be extended to its complete disposal. From this perspective, remembering droughts and abundance was a way for my old interlocutors to access their entire memory and historical experience, making it available to them in the present, ready to be actualized.

As we have seen so far, the history of droughts in the semi-arid region of the Northeast is permeated with death. Therefore, the long history of droughts in the Brazilian semi-arid region shows that ‘ancient time’ was not always a time of ‘abundance.’ The stories of droughts are full of conflicts and alarming situations, such as mass migrations, corruption, hunger, and misery (Castro 1984), even genocides, work fronts, and concentration camps (Neves 1995). Nevertheless, death itself has brought the elderly closer to the fundamentally ecological problem of life, creating “storied places” of ruins, extinction, and death (van Dooren and Rose 2012), as we saw in conversations with Antônio Izidório, Cirilo Diniz and Zé Ferraz. The ‘good memory’ of the elderly gives life to an ecologically rich and abundant semi-arid region. The ‘ancient time’ fits into the cracks, spaces, and gaps opened by ‘today’s time,’ forming a cohesive and indivisible block of time, *la durée*, according to Bergson, that never ceases to change and transform their own nature, while changing and transforming the reality around them.

In this sense, to say that ‘ancient time’ is a time of ‘abundance’ and drought, as the old cowboys did, is not to synthesize the past into the present, or even to reveal the cracks that exist between them. The memories and times of droughts and abundance that I collected in Floresta and other places can be thought of as personal and collective experiences that are not necessarily reduced to the time of “history” and “societies.” Times of droughts and abundance are ecological memories that inhabit people’s hearts and can transform the world around them from within.

Conclusion

By giving reality to the past world, old cowboys like Antônio Izidório and Cirilo Diniz rise ecologically against the ‘time of today,’ but the memory of these elders cannot serve as a repository for something immobile, inert, and dead. By giving shape, colour, smell, and life to the ‘abundance’ of the ‘ancient time,’ the memory of the old is an ecology that changes and transforms societies, individuals, environments, and their own creations. Memory is ecological precisely because it is an attentive, agile, moving, and transformative action of reality. Following this idea, throughout this article, I have tried to demonstrate that, although memory has a historical, cultural, and social ancestry, still focused on the preservation and conservation of ancestral knowledge and practices, memories of drought and abundance are not exactly confused with forms of representation of previously demarcated and instituted social frameworks. More than an act of preservation and conservation of society, history, culture, tradition, and the environment, memories of drought and abundance are living forces of the past that resize the relationships that the living have and make with the world and with themselves. Remembering the ‘ancient time,’ Zé Ferraz, Antônio Izidório, Cirilo Diniz, and many other elders, made ‘abundance’ resize their memories beyond the borders surrounded by rural and traditional communities. Against the backdrop of modern machinery that murders and crushes everything that is made to last and preserve itself in time, the elders of this ethnography have made their lived worlds last in (and transform) the present moment.

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Notes

- 1 With an estimated population of 29,285 inhabitants, according to the 2021 census, Floresta is a municipality in the state of Pernambuco, located in the Itaparica microregion, in the mesoregion of São Francisco, specifically in the basin of the Pajeú River. Its main economic activities are goat and cattle ranching and subsistence agriculture.
- 2 Words in single quotes designate terms from my research informants. Italicized markup is used for the original terms in Portuguese. Double quotation marks refer to concepts and terms of authors accompanied by bibliographic citations. In double quotation marks, phrases from my informants and indirect quotations from authors are equally represented.
- 3 José Gregório Ferraz died on 17 May 2024, at the age of 102, while I was reviewing the final version of this article.
- 4 About world creations or “worldings,” see de La Cadena and Blaser (2018).
- 5 Supposedly dead in the 1850s, Totonho do Marmeleiro is an ancestor in whose honour Maria Amélia and Gilson were organizing a religious celebration (*missa do vaqueiro*). This ritual, in particular, was ethnographically analyzed by Villela as a process of “political thanasimology” of the genealogical memory of the region (2020b).
- 6 I do not have exact information on when Antônio passed away. It was either in 2016 or 2017.
- 7 The Bergsonian theory of memory has been considered by different authors in anthropology and social sciences. See, for example, Flynn (2021), Hodges (2008), Marcurio (2022), Marques (2013), Pedersen (2012), Rockfeller (2011), Villela (2015).

- 8 Due to the COVID-19 pandemic, it was not possible to carry out fieldwork to write my doctoral thesis (Author, 2023). “Second-hand” information such as the dialogues between my friend Maria Amélia and Zé Ferraz were used to cobble together the memories of the Ferraz family and the Ema ranch, material derived from a methodological proposal called “patchwork ethnography” by some anthropologists (Günel et al. 2020).
- 9 ‘Good memory’ (*boa memória*) because it is skillful, agile, and enduring, by virtue of the strength and vigour of its communication. About the “arts of memory” and the “mnemotechnics” in the context of Classical Antiquity, for example, see Yates (2001 [1966]).
- 10 In 2016, Cirilo was 84 years old. He died the following year.
- 11 Between January and October 2021, for example, according to data from INPE, the Caatinga was the Brazilian biome with the greatest increase in the number of fires in that period, according to an article published by G1 in August 2021: <https://g1.globo.com/natureza/noticia/2021/08/03/por-que-a-caatinga-vive-explosao-em-numero-de-queimadas.ghtml>. In the same year, a report published by the IPCC (Intergovernmental Panel on Climate Change) identified that the desertification area of the Caatinga until that moment was equivalent to the entire territory of England—a fact widely reported by the mainstream national press. See article published in the BBC News Brazil newspaper: <https://www.bbc.com/portuguese/brasil-58154146>.

References

- Albuquerque Jr., Durval. 1995. “Palavras que Calcinam, Palavras que Dominam: A Invenção da Seca do Nordeste” [“Words that Calcinate, Words that Dominate: The Invention of the Northeast Drought”]. *Revista Brasileira de História* 15 (28): 111–120.
- Alves, Yara. 2021. “Recomposições do passado: memórias e histórias da festa de Nossa Senhora do Rosário dos Homens Pretos em Minas Novas – MG” [“Recompositions of the Past: Memories and Stories from the Feast of Nossa Senhora do Rosário dos Homens Pretos in Minas Novas – MG”]. *Religião e Sociedade* 41(3): 127–141. <https://doi.org/10.1590/0100-85872021v41n3cap05>
- Angé, Olivia, and David Berliner, eds. 2021. *Ecological Nostalgias: Memory, Affect and Creativity in Times of Ecological Upheavals*. New York and Oxford: Berghahn Books.
- Bakhtin, Mikhail. 1981. *The Dialogic Imagination: Four Essays*. Austin: University of Texas Press.

- Basso, Keith. 1996. *Landscape and Language Among the Western Apache*. Albuquerque: University of New Mexico Press.
- Bateson, Gregory. 1987. *Steps to an Ecology of Mind*. Chicago: Chicago University Press.
- Bear, Laura. 2016. "Time as Technique." *Annual Review of Anthropology* 45: 487–502. <https://doi.org/10.1146/annurev-anthro-102313-030159>
- Benjamin, Walter. 2019. "The Storyteller: Reflections on the Works of Nikolai Leskov." In *The Storyteller Essays: Walter Benjamin*, edited by Samuel Titan. New York: New York Review Books.
- Bergson, Henri. 2014. *La Pensée et le mouvant: Essais et Conférences*. Paris: Editions Flammarion, Quadrige/PUF.
- . 1944. *Creative Evolution*. New York: The Modern Library.
- Berliner, David. 2005. "The Abuses of Memory: Reflections on the Memory Boom in Anthropology." *Anthropological Quarterly* 78 (1): 197–211. <http://doi.org/10.1353/anq.2005.0001>.
- Bourdieu, Pierre. 1963. "The Attitude of the Algerian Peasant Towards Time." In *Mediterranean Countrymen: Essays in the Social Anthropology of the Mediterranean*, edited by J. Pitt-Rivers, 55–72. Westport, Conn.: Greenwood.
- Cavignac, Julie. 2009. "Um mundo encantado: memória e oralidade no sertão do Rio Grande do Norte" ["An Enchanted World: Memory and Orality in the Backlands of Rio Grande do Norte"]. In *Diversidade do campesinato: expressões e categorias. Construções identitárias e sociabilidades [Diversity of the peasantry: expressions and categories. Identity constructions and sociability]*, v. 1, edited by Emilia Pietrafesa Godoi et al., 69–95. São Paulo/Brasília: Unesp/Nead.
- Cunha, Euclides da. 1927. *Os Sertões [The Backlands]*. Rio de Janeiro: Livraria Francisco Alvez.
- De la Cadena, Marisol, and Mario Blaser. (ed.). 2018. *A World of many Worlds*. Durham: Duke University Press.
- Deleuze, Gilles. 2012 [1966]. *Bergsonismo [Bergsonism]*. São Paulo: Editora 34.
- Evans-Pritchard, Edward. E. 1939. "Nuer time-reckoning: Africa." *Journal of the International African Institute* 12 (2): 189–216. <https://doi.org/10.2307/1155085>.
- . 1940. *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. Oxford: Clarendon Press.

- Fabian, Johannes. 1983. *Time and the Other. How Anthropology Makes Its Object*. New York: Columbia University Press.
- Flynn, Alex. 2021. "Once upon a Time in Utopia: Bergson, Temporality and the Remaking of Social Movement Futures." *Social Anthropology*, 29 (1): 156–173. <https://doi.org/10.1111/1469-8676.12991>
- Furtado, Celso. 1959. *Formação Econômica do Brasil [Economic Formation of Brazil]*. São Paulo: Companhia das Letras.
- Geertz, Clifford. 1973. *The Interpretation of Cultures*. New York: Basic Books.
- Gell, Alfred. 1996. *The Anthropology of Time: Cultural Constructions of Temporal Maps and Images*. Oxford, Washington: Berg.
- Godoi, Emília. 1999. *O Trabalho da Memória: cotidiano e história no sertão do Piauí [The Work of Memory: Daily Life and History in the Backlands of Piauí]*. Campinas: Editora da Unicamp.
- Guattari, Félix. 2000 [1989]. *The Three Ecologies*. London - New York: Continuum.
- Günel, Gökçe, Saiba Varma, and Chika Watanabe. 2020. "A Manifesto for Patchwork Ethnography." *Society of Cultural Anthropology*, 9 June. <https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography> (accessed 15 April 2024).
- Hastrup, Kirsten. 2013. "The Ice as Argument: Topographical Mementos in the High Arctic." *Cambridge Anthropology* 31 (1): 51–67. <https://doi.org/10.3167/ca.2013.310105>.
- Herzfeld, Michael. 2005. *Cultural Intimacy: Social Poetics in the Nation-State*. New York: Routledge.
- High, Casey. 2021. "The Nature of Loss: Ecological Nostalgia and Cultural Politics in Amazonia." In *Ecological Nostalgias: Memory, Affect and Creativity in Times of Ecological Upheavals*, edited by Olivia Angé and David Berliner, 84-107, New York and Oxford: Berghahn Books.
- Hodges, Matt. 2008. "Rethinking Time's Arrow: Bergson, Deleuze and the Anthropology of Time." *Anthropological Theory*, v. 8 (4): 399–349. <https://doi.org/10.1177/1463499608096646>.
- Hyppolite, Jean. 1949. "Aspects divers de la mémoire chez Bergson" ["Various aspects of memory in Bergson"]. *Revue Internationale de Philosophie*, v. 3 (10): 373–391.

- Hubert, Henri. 1904. “Étude sommaire de la Représentation du Temps dans la Religion.” [Summary Study of the Representation of Time in Religion]. *Annales de l'École Pratique des Hautes Études*: 1-39. https://www.persee.fr/doc/ephe_0000-0002_1904_num_18_14_19635.
- Ialenti, Vincent. 2020. *Deep Time Reckoning: How Future Thinking Can Help Earth Now*. Cambridge, Mass.: MIT Press.
- Ingold, Tim. 2000. *The Perception of Environment: Essays in Livelihood, Dwelling and Skill*. London: Routledge.
- Iparraguirre, Gonzalo. 2016. “Time, temporality and cultural rhythmicity: an anthropological case study,” *Time and Society*, 25(3): 613–633. <https://doi.org/10.1177/0961463X15579802>.
- Lambek, Michael. 2002. *The Weight of the Past: Living with History in Mahajanga, Madagascar*. New York: Palgrave Macmillan.
- Le Goff, Jacques. 1996. *History and Memory*. New York: Columbia University Press.
- Lévi-Strauss, Claude. 1952. *Race and History*. Los Angeles: UNESCO.
- . 1968. *The Savage Mind*. Chicago: University of Chicago Press.
- Lucchesi, Fernanda. 2017. *O feijão do Zé Américo: terra, trabalho e deslocamento nas políticas contra as secas, o caso de Coremas* [Zé Américo's beans: land, work and displacement in drought policies, the case of Coremas]. PhD Dissertation, University of São Paulo.
- Lyons, Kristina. 2019. “Ríos y Reconciliación Profunda: La Reconstrucción de la Memoria Socioecológica en Tiempos de Conflicto y ‘Transición’ en Colombia” [“Rivers and Deep Reconciliation: The Reconstruction of Socioecological Memory in Times of Conflict and ‘Transition’ in Colombia”]. *Maguaré* 33 (2): 209–245. <https://doi.org/10.15446/mag.v33n2.86201>.
- Marcurio, Gabriela de Paula. 2022. *Tempo de reparação: luta e memória da comunidade atingida de Paracatu de Baixo, Mariana/MG* [Time for reparation: struggle and memory of the affected Community of Paracatu de Baixo, Mariana/MG]. PhD Dissertation, University of São Carlos.
- Marques, Ana Claudia. 2013. “Founders, Ancestors and Enemies: Memory, Family, Time and Space in the Pernambuco Sertão.” *Journal of the Royal Anthropological Institute* 19 (4): 716–733. <https://doi.org/10.1111/1467-9655.12061>.

- Marques, Ana Claudia, and Jorge Villela. 2016. "Le Sang et la Politique: La Production de la Famille dans les Joutes Électorales au Sertão de Pernambuco, Brésil" ["Blood and Politics: The Production of Family in the Electoral Contests in Sertão de Pernambuco, Brazil"]. *Anthropologica* 58 (2): 291–301. <https://doi.org/10.3138/anth.582.A04>.
- Mathews, Andrew, and Jessica Barnes. 2016. "Prognosis: Visions of Environmental Futures." *Journal of the Royal Anthropological Institute* 22, no. S1: 9–26. <https://doi.org/10.1111/1467-9655.12391>.
- Mauss, Marcel, and Henri Beuchat. 1979. *Seasonal Variations of the Eskimo: A Study in Social Morphology*. London: Routledge and Kegan Paul.
- Munn, Nancy. 1992. "The Cultural Anthropology of Time: A Critical Essay." *Annual Review of Anthropology* 21: 379–405. <https://doi.org/10.1146/annurev.an.21.100192.000521>
- Nazarea, Virginia. 2006. "Local Knowledge and Memory in Biodiversity Conservation." *The Annual Review of Anthropology* 35: 17–35. <https://doi.org/10.1146/annurev.anthro.35.081705.123252>.
- Nelson, Donald, and Timothy Finan. 2009. "Praying for Drought: Persistent Vulnerability and the Politics of Patronage in Ceará, Northeast Brazil." *American Anthropologist* 111(3): 302–316. <https://doi.org/10.1111/j.1548-1433.2009.01134.x>.
- Nora, Pierre. 1989. "Between Memory and History: Les Lieux de Mémoire." *Representations* 26: 7–24. <https://doi.org/10.2307/2928520>.
- Neves, Frederico de Castro. 1995. "Curral dos Bárbaros: Os Campos de Concentração no Ceará (1915 e 1932)" ["Curral dos Bárbaros: The Concentration Camps in Ceará (1915 e 1932)"]. *Revista Brasileira de História* 15: 93–122.
- Palmeira, Moacir. 2002. "Política e tempo: notas exploratórias" ["Politics and Time: Exploratory Notes"]. In *O dito e o feito: ensaios de antropologia dos rituais* [Saying and Making: Essays on the Anthropology of Rituals], edited by Mariza Peirano. Rio de Janeiro: Relume Dumará.
- Pedersen, Morten. 2012. "A Day in The Cadillac: The Work of Hope in Urban Mongolia." *Social Analysis*, v. 56 (2): 136–151. <https://doi.org/10.3167/sa.2012.560210>.
- Pereira, Renan Martins. 2017. *Rastros e Memórias: etnografia dos vaqueiros do sertão (Floresta - PE)* [Traces and Memories: Ethnography of the Cowboys of the Backlands (Floresta - PE)]. Master's dissertation, Federal University of São Carlos. <https://repositorio.ufscar.br/handle/ufscar/9044>.

- . 2020a. “Velejar e descobrir: considerações sobre vaqueiros, corpos e lembranças” [“Sailing and Discovering: Considerations about Cowboys, Bodies and Memories”]. *Sociologia e Antropologia* 10 (3): 931–956. <http://dx.doi.org/10.1590/2238-38752020v1037>.
- . 2020b. “O sertão, a seca e o fim” [“Sertão, Drought, and the End”]. In *Insurgências, ecologias dissidentes e antropologia modal* [Insurgencies, dissident ecologies and modal anthropology], edited by Jorge Vilela, and Suzane Vieira. Goiânia: Editora da Imprensa Universitária.
- . 2023. *Ecologizar a memória: sertão, antropologia e crise ecológica no século XXI*. [Ecologizing Memory: Sertão, Anthropology and Ecological Crisis in the 21st century]. PhD dissertation, Federal University of São Carlos. <https://repositorio.ufscar.br/handle/ufscar/17585>.
- Pollak, Michael. 1989. “Memória, Esquecimento e Silêncio” [“Memory, Forgetting and Silence”]. *Estudos Históricos* [Historical Studies] 2 (3): 3–15. <https://periodicos.fgv.br/reh/article/view/2278>.
- Rockefeller, Stuart. 2011. “Flow.” *Current Anthropology*, v. 52 (4): 557–578. <https://doi.org/10.1086/660912>.
- Rose, Deborah. 2012. “Multispecies Knots of Ethical Time.” *Environmental Philosophy* 9 (1): 127–140. <https://doi.org/10.5840/envirophil2012918>.
- Stewart, Pamela, and Andrew Strathern. 2003. *Landscape, Memory and History: Anthropological Perspectives*. London: Pluto Press.
- Taddei, Renzo. 2017. *Meteorologistas e Profetas da Chuva: conhecimentos, práticas e políticas da atmosfera* [Meteorologists and Rain Prophets: Knowledge, Practices and Policies of the Atmosphere]. São Paulo: Editora Terceiro Nome.
- Teixeira, Jorge. 2019. *Caçando na mata branca. Conhecimento, movimento e ética no sertão cearense* [Hunting in the White Forest. Knowledge, Movement and Ethics in the Backlands of Ceará]. PhD Dissertation, Federal University of Rio de Janeiro.
- Ullberg, Susann. 2013. *Watermarks: Urban Flooding and Memoryscape in Argentina*. Stockholm: Stockholm University Press.
- Van Dooren, Thom, and Deborah Rose. 2012. “Storied Places in a Multispecies Study.” *Humanimalia* 3(2): 1–27. <https://doi.org/10.52537/humanimalia.10046>.
- Vilela, Jorge. 2004. *O Povo em Armas: Violência e Política no Sertão de Pernambuco* [The People in Arms: Violence and Politics in the Sertão of Pernambuco]. Rio de Janeiro: Relume Dumará.

- . 2015. “Os vivos, os mortos e a política no sertão de Pernambuco” [“The Living, the Dead and Politics in the Backlands of Pernambuco”]. *Revista de História (USP)*, 173: 329–358. <https://doi.org/10.11606/issn.2316-9141.rh.2015.98799>.
- . 2020a. “Confiscações, Lutas Anti-Confiscatórias e Antropologia Modal” [“Confiscations, Anti-Confiscatory Struggles and Modal Anthropology”]. In *Insurgências, ecologias dissidentes e antropologia modal*, edited by Jorge Villela, and Suzane Vieira. Goiânia: Editora da Imprensa Universitária.
- . 2020b. “Memória e thanasimologia política no sertão de Pernambuco” [“Memory and Political Thanasimology in the Backlands of Pernambuco”]. *Sociologia e Antropologia [Sociology and Anthropology]*, 10: 222–242. <https://doi.org/10.1590/2238-38752019v10i8>.
- Yates, Frances. 2001 [1966]. *The Art of Memory*. Chicago: University of Chicago Press.