

SPOILED BY COVID-19: GEONTOLOGY, PATHOGENESIS, AND RESISTANCE AMONG THE AKAWAO

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This article examines notions of disease and geontology among the Akawaio people of Guyana within the context of COVID-19. It begins with an ethnographic encounter that one of the authors experienced at the height of the COVID-19 pandemic and examines its ramifications through an in-depth analysis of Akawaio concepts concerning pathogenesis in contexts of malevolent human and other-than-human agency, as well as Akawaio histories of resisting encroachments and predations by Europeans and other outsiders in the broader region. Centred around local notions of 'spoiling' through sorcery-related interventions or infractions against certain ethical norms, the article considers ontologies that framed and contextualised the COVID-19 pandemic for many Akawaio people in the Upper Mazaruni River basin of Guyana.

Keywords: Akawaio, COVID-19, Guyana, pathogenesis, sorcery

Introduction

This article examines notions of disease and geontology among the Akawaio people of Guyana within the context of COVID-19. Centred around local notions of 'spoiling' through sorcery-related interventions or infractions against certain ethical norms, the article considers ontologies that framed and contextualised the COVID-19 pandemic for many Akawaio people in the Upper Mazaruni River basin of Guyana.³

Since the COVID-19 pandemic came to global attention in early 2020, it was often met with misinformation campaigns fuelled by fringe groups promoting conspiracies and anti-

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³ For more on Akawaio geontologies and Alleluia, see Cooper (2015). For more on the history of missionisation and Alleluia among the Makushi in Guyana, see Whitaker (2016a). This article is partially based on these doctoral theses and contains updated data from Whitaker's 2021 fieldwork with the Akawaio in Kamarang/Warawatta.

vaccine beliefs. In Europe and the United States, scepticism towards COVID-19 was and continues to be frequently seen as a proxy for certain political views (often from the political right). However, even as the pandemic waned, related ideas spread globally and were encountered in a variety of contexts. Often spread through social media, websites, and sometimes religious groups, these ideas at times combined with traditional concepts and notions in some areas and took on new meanings and uses. This paper examines one such case in the Akawaio region of Guyana in relation to longstanding geographies, histories, and ontologies. It begins with two ethnographic encounters that point to such intersections of the global and the local.

Soon after arriving in Kamarang Village in September of 2021, one of the authors (Whitaker) met and had dinner one evening with a family that was visiting Kamarang from Phillipai Village for a multi-village meeting.⁴ As they were finishing eating, the mother raised the topic of the COVID-19 pandemic and the vaccine. She claimed that she knew of cases in which taking the vaccine had caused people to become paralyzed or unable to sleep and work. She said that she would certainly not be taking the vaccine. In contrast, the daughter told her mother that she (the daughter) had taken the vaccine and experienced no negative effects. However, the mother pointed out that the daughter was still eating after everyone else had finished and that she kept wanting to eat more and more now. In local understandings among some Akawaio people, this could point to malevolent ‘blowing’ or to a case of excessiveness often referred to in terms of monstrosity or *oma*. In relation to this, she said to her daughter: ‘See, you get spoiled’ and then laughed quietly. The notion of spoiling, as described below, most often refers to sorcery and intentional harm. The daughter said nothing and they quickly changed topics.

Not long after this encounter, Whitaker was visiting a local Alleluia church one Saturday on the Warawatta side of the river. He was wearing a mask, as he always did in Kamarang and Warawatta. Towards the end of the church service, one of the male church members (not the primary church leader) stood up and explained that Jesus Christ was his vaccination against COVID-19 and that there was no need to wear masks. This man then gave an Alleluia prayer that he said would protect everyone present against the virus. Although Whitaker later learned that not all of the church members shared this man’s views on masks, this episode reveals that it was not only evangelical churches that adopted COVID-sceptical positions. Notably, the mother in the story above grew up in the Alleluia church, but later converted to Pilgrim Holiness.

⁴ Whitaker’s fieldwork for this article was conducted during the COVID-19 pandemic in 2021 among the Akawaio in Kamarang Keng in Guyana. Kamarang Keng is composed of two main sections. The first is the Kamarang side, which is part of Akawaio territory but mostly consists of a government station containing a large coastlander population (mostly occupied in mining-related work) as well as Akawaio people. The second is the Warawatta side, which is located directly across the river from Kamarang. Warawatta is overwhelmingly composed of Akawaio people and is centred around traditional cassava farming. Whitaker’s fieldwork involved participant observation and 32 open-ended interviews that addressed the pandemic and climate change in addition to other topics. Social distancing, masking, and other public health measures were carefully practiced throughout this fieldwork. Cooper’s fieldwork was conducted in 2012-2013 in villages across the Akawaio territory in Guyana and was centred on participant observation and open-ended interviews focused on the Alleluia religion and cultural geography.



Figure 1. The outside of the Warawatta Alleluia Church. Photograph by James Andrew Whitaker (2021).



Figure 2. The inside of the Warawatta Alleluia Church. Photograph by James Andrew Whitaker (2021).

In general, Whitaker encountered multiple situations across the village involving scepticism towards COVID-19 and related opposition towards masks, vaccines, etc. On various occasions, he was told that the vaccine is the 'mark of the beast', a vector for malevolent

‘chips’, a tool for population reduction, and/or a sinister plot by ‘elite’ figures. These suspicions varied in relation to whether Guyanese and/or foreign actors were suspected. While he was there, a group of village leaders from across the region met together at a conference of *toshao*s in Kamarang and decided not to travel to Georgetown for a national meeting because such travel would require vaccination and many refused to be vaccinated.⁵ He also heard claims that masks actually cause (rather than help to prevent catching) the virus, that nasal-swab testing is harmful, and that patients are given oxygen in the hospital to kill them. This last claim seems to have been amplified after a local youth was hospitalised with severe head injuries, subsequently contracted COVID-19, and died on oxygen. On the other hand, there are local Akawaio people, such as the daughter mentioned above, who willingly chose to receive the vaccine and who supported the vaccination programme. There are also Akawaio people who work as healthcare providers and medical personnel in Guyana who seem to differentiate between animist and naturalist ontologies in relation to pathogenesis and vaccination.⁶ Responses to COVID-19, as well as the vaccination programme, varied among the Akawaio and other Indigenous people in the region. Such differences sometimes existed both within and across villages. In this paper, which is based on ethnographic fieldwork by both authors in different villages across the Upper Mazaruni River basin, we examine scepticism and resistance concerning the COVID-19 vaccine, which was evident among some in Kamarang and Warawatta, in relation to past and present contexts and geontologies among Akawaio people in Guyana. We consider what it means to be ‘spoiled’ by COVID-19 and related vaccination.

Life during the COVID-19 pandemic in Kamarang and Warawatta

As in other areas of Guyana, the COVID-19 vaccination programme in Kamarang and Warawatta was largely facilitated by the national government, which was also the source of many of the other related public health measures. When Whitaker first arrived there, very few people were wearing masks and some even responded negatively to others wearing them. He was criticised for wearing a mask on a few occasions and was once asked to remove it during a religious service.⁷ Opposition to masking among some villagers came to a head during a community-wide market day in Kamarang when a local official announced to everyone that the government was requiring the use of masks in public and that the police would begin issuing fines to people not in compliance. Verbal opposition to this was expressed by some villagers. Subsequently, Whitaker observed a small uptick in mask usage, but most still did not

⁵ The word *toshao* is a traditional term for village leaders among many Indigenous groups in Guyana.

⁶ For more on these two ontologies, see Descola (2013). In general, naturalism refers here to the ontology of Western science, which posits the exterior world (often conceptualised as ‘natural’ or ‘material’) as shared among all beings and the interior world (whether conceptualised as ‘mental’, ‘spiritual’, or ‘cultural’) as divided. In contrast, animism refers here to a different ontology, which posits the exterior world as separated into different perspectives while the interior world is shared among all beings (see also Viveiros de Castro 1998; Whitaker 2021a). Animist ontologies often underpin the notions of sorcery (emphasising the efficacy of shared interiorities) discussed herein.

⁷ Whitaker explained that he had committed to wearing a mask for public health reasons during the process of applying for fieldwork permissions and so he could not remove the mask as requested.

wear masks on a regular basis. Many villagers claimed that there had been no deaths from COVID-19 in the Upper Mazaruni region, where Kamarang and Warawatta are located, and speculated about nefarious intentions on the part of the government and international entities. Some claimed that the vaccine was actually riskier than the virus. Traditional remedies (e.g., herbal teas) were often emphasised as preventative measures or as treatments (see also De Souza et al. 2021: 74).⁸

A mood of fear, resentment, suspicion, and distrust emerged among many in Kamarang and Warawatta in relation to COVID-19. A middle-aged Akawaio man in Kamarang said that:

What is happening now is that the people are getting vaccinated and the ones getting vaccinated are dying more than those not vaccinated. A little girl at 13 get vaccinated here and she paralysed and they hiding it from the people. And there is something going up with the vaccine. And now the government make it to where you have it to go and buy or work.

These cases of alleged injuries from the vaccine were unverifiable and involved second-hand information that many villagers saw as evidence of a conspiracy.⁹ Another middle-aged man in Kamarang provided a starkly contrasting view on COVID-19:

I personally understand how serious it is because I listen to news, BBC, CNN, and we get information about COVID. And we personally said that this thing is nothing to play with. And [the] thing I didn't understand is how you affected because they said you can get it from other people. And it's in the air and you can get it from people sneezing or coughing. And I was confused about [it], but now I understand how it spreads and so. And I didn't make any joke when vaccine come out. And we [i.e., he and his wife] were like the first people to take the vaccine. You can get sick if you get the vaccine, but you wouldn't get as bad and it wouldn't affect you as much. I go to Georgetown and come back, but I try to keep my distance and wear mask and so. But some of the people just don't care and haven't seen somebody suffering with it here in Kamarang. And they keep sporting and sporting [i.e., partying] and you can hear the jukebox playing until 4:00 or 5:00 in the morning. And now with the internet some people hearing that COVID vaccine is not good and so. And some people now won't go get the vaccine. How true it is I don't know, but I been vaccinated and I still here today. COVID is not something to play with as far as I am concerned.

It was around the same time as the public announcement about enforcement of masking that the regional *toshao*s decided not to attend the national meeting in Georgetown due to opposition to being vaccinated. This decision represented a collective resistance to COVID-19 vaccination. However, as indicated by the quotation above, not all of the villagers (or even *toshao*s) were in agreement. A middle-aged Akawaio woman in Warawatta who had received

⁸ Among the Akawaio and other Indigenous groups in Amazonia, some people chose to combine traditional and Western forms of treatment for COVID-19 (see De Souza et al. 2021: 76).

⁹ Whitaker also heard about the 13-year-old girl from other villagers, but he was unable to verify this information.

the vaccine and was concerned about the impacts of the *toshao*s' decision told Whitaker that many villagers:

[...] believe it's just the government trying to make them do this [i.e., get the vaccine]. I said just because you don't like PPP [i.e., People's Progressive Party] government or if it was APNU [i.e., A Partnership for National Unity] government. And I say that it is the world and they trying to help us [through the vaccination programme]. But I know for a fact that 99% of villagers here don't believe in COVID. And I heard it right there in the meeting [of *toshao*s]. All the villagers saying they don't have no [COVID] and that it won't kill us.

Although there was disagreement among the Akawaio about the public health measures taken by the government in response to COVID-19, the general tendency was towards resistance and suspicion based on opposing views concerning these measures and the intentions behind them.

Although Whitaker was not able to ascertain the exact sources of vaccine supply and distribution, he learned that much of the information about vaccination was provided through the hospital in Kamarang. Social media, particularly Facebook, was also a source of information, as well as misinformation, for some villagers about COVID-19 and related public health measures. Information derived from the internet often contrasted with information disseminated by public health leaders and workers. An older Akawaio woman from an upriver village called Phillipai told Whitaker in Kamarang that government health workers had first arrived in her village in December of 2020 to inform villagers about the COVID-19 pandemic. She indicated that the government had also distributed leaflets about the virus and advised people to go to their 'backdams' (i.e., farming areas) in order to socially distance.¹⁰ Like many local villagers, she thought that COVID-19 was really just a version of a seasonal cold or flu syndrome. She expressed strong opposition to the vaccination and also to nasal-swab testing. She also mentioned a case where the vaccine had allegedly caused paralysis. Overall, local perceptions about the national government's handling of the pandemic, as well as fears about restrictions on employment, travel, and access to social spaces (e.g., businesses and churches), seem to have led to scepticism and opposition to the public health measures.

Whitaker was told by a few villagers that it was mostly vaccines developed by Russia and China that were being used in the Upper Mazaruni. Some villagers were concerned about this and thought that Indigenous people were not being given the best types of vaccines. A non-Akawaio man who worked in mining in Kamarang told Whitaker he had been informed that he needed to get re-vaccinated because the Sputnik V vaccine he was recently given was allegedly from a defective batch. The nature of the alleged problem was unclear, but this man (who had previously been somewhat supportive of the vaccination programme) was very angry about it and blamed the Guyanese government for potentially putting him at risk. An Akawaio leader from Phillipai Village also mentioned reports of alleged problems with this particular vaccine.¹¹

¹⁰ Curfews and closures of businesses were not in place while Whitaker was in the village. We are not sure if these measures were used previously or afterwards in Kamarang and Warawatta.

¹¹ These concerns were likely related to conflicting statements by national political figures in Guyana. In particular, a political opposition leader reportedly made allegations in mid-June of 2021 against a batch of Sputnik

While in Kamarang, Whitaker conducted an interview with a prominent member of the National Assembly of the Parliament of Guyana and member of an opposition party from the Upper Mazaruni about the COVID-19 pandemic and responses to it. She explained that:

[...] people are very much afraid and hearing that they cannot get access to the government services. Hearing that they can't get services if they don't have a blue book [vaccination card], as it's called. And it's troubling their lives. And they say that people haven't died from COVID-19 in [another local Akawaio village]. And they have a belief in their herbal medicines. And they use a lot of ginger and lemon grass to bathe [which is a traditional remedy among the Akawaio]. I believe it too because recently I had dengue and they tell me to bathe with seven leaves and so. And they have a strong resistance up to now against the COVID vaccination. And to worsen it, the government now is mandating the vaccine when it should be their choice. What they need is education and encouragement and I think that is what is getting them annoyed. I think that is what is missing in these Indigenous communities. And what they [are] scared about is these different vaccines they don't know about.

This account is largely consistent with what Whitaker heard from many other villagers in Kamarang and Warawatta. However, it must be seen within the context of the broader political situation in Guyana at the time. Local tensions concerning COVID-19 and related vaccination emerged within an environment of heightened politics, stemming from a contentious no-confidence vote in 2018 against the APNU government, which subsequently refused to cede power until 2020.¹² This provides a national political context in addition to the broader historical relations and ontological frameworks around which this article is centred and to which we will now turn.

Pantoni and geontology

To understand local responses to COVID-19, it is necessary first to consider Akawaio conceptualisations of knowledge and life. Among the Akawaio, knowledge is frequently contained in cosmological accounts known as *pantoni* (or *panton* in the singular). Such narratives are often conceptualised as independent beings with human 'owners' and specific locations within the landscape. *Pantoni* become 'grounds of being' that constitute geontological foundations for local conceptualisations of illness and pathogenesis among the Akawaio.¹³

V vaccines. This led to acrimony with the government and also contributed to rising vaccine scepticism among some in Guyana. See <https://op.gov.gy/index.php/2021/06/17/opposition-leaders-statement-on-sputnik-v-vaccines-reckless-self-serving-president-ali/> and <https://demerarawaves.com/2021/06/17/health-minister-there-is-nothing-fake-about-batch-of-sputnik-vaccines-in-response-to-harmons-call-for-suspension-until-verification/>, both archived at <https://web.archive.org/>.

¹² For more on these political events, see Whitaker (2025a).

¹³ Elizabeth Povinelli's (2016) work on geontology provides a context for discussing different conceptualisations of human and non-human life. She contrasts animist ontology (emphasising geontology) with Western ontology. She examines this contrast by discussing deserts and relations between life and its other. She also situates COVID-19 within the context of capitalism's colonisation of the broader world (Povinelli 2020). Her perceptions

Among the Akawaio and their Indigenous neighbours, some *pantoni* centre around cosmological narratives involving special brothers, who are often called Makunaima and Chiki. These brothers are said to be offspring of the Sun (known as Wei) and a mother made of clay (known as Aromadapuén) (see Armellada 1964; Cooper 2015: 95). Although sometimes referred to with different names, stories about such brothers recur in a variety of forms among Makushi, Patamona, and Pemon groups,¹⁴ as well as several other regional Indigenous groups (see Whitaker 2016a, 2021a and b, 2025b). In some cases, these brothers are grouped together (as a pair or larger set) as ‘the Makunaima’ (Butt Colson and Armellada 1989; Cooper 2015: 22). According to Cooper’s fieldwork data with the Akawaio:

In each of the stories, the older Makunaima often represents stasis – a constant timeless given – and greed. The youngest of the children, Chiki/Anike is an unattractive agitator, meddler and trickster, curious about the world around him and wishing to alter things and help others. (2015: 96)

Despite variations, which contrast and sometimes conflict across the region, these stories generally depict the brothers as creation heroes who shaped the landscape of the Akawaio.¹⁵ They are particularly associated with certain geontological features (e.g., rocks and waterfalls). The origins of most things (including illnesses) are often explained in relation to these brothers.

In one well-known *panton*, the brothers decided to chop down the Waiaka, a ‘tree of life’ (Cooper 2015: 57, 60). The flood resulting from this tree’s fall is associated with the origin of rivers and the dispersal of the tree’s bounty of food.¹⁶ Afterwards, only a mountain-like stump remained, which the Akawaio call Waiaka Piapi. This event is associated with the ‘spoiling’ of the world that resulted from the actions of the brothers (see Armellada 1964). For the Akawaio, the emergence of illnesses and the concept of spoiling, as recounted in the opening vignette and described in further detail below, find their origins in this pivotal event, which occurred during the original time (called *pia’atai* in Akawaio). Afterwards, relations between human and other-than-human beings became predatory and diseases emerged (see Cooper 2015: 96-97).

Illness is understood among the Akawaio in relation to conceptual frameworks concerning bodies, inner being, and energy. Both the landscape and physical bodies contain two contrastive types of energy (Cooper 2015: 89). The first type is called *akwa* and is associated with energy that indexes both the sun and a person’s inner being (Butt Colson 1976, Butt Colson and Armellada 1989, Fox 2003: 70). The second type of energy is called

resonate with those of many Akawaio people who hold animist geontological views and maintain a general distrust of outsiders.

¹⁴ In this article, the ethnonym Pemon primarily refers to Arekuna, Kamarakoto, and Taurepan groups (see also Butt 1960: 100).

¹⁵ For example, although Whitaker did not focus on *pantoni* concerning the brothers during his fieldwork among the Akawaio, he encountered different accounts of the two brothers (generally under different names) during fieldwork with the Makushi in Guyana (Whitaker 2016a).

¹⁶ Similar stories have been documented throughout the region among Indigenous groups since at least the nineteenth century (see Hilhouse 1825: 53).

ewarupʉ and is broadly associated with darkness and a kind of underworld (Fox 2003: 70). Illness emerges as a consequence of imbalances with these forms of energy.

As to the basis of illness, the Akawaio term *ewan* generally refers to a 'vital centre' and related foundations from which things ontologically originate and rest, which is often described in terms of things that are rested upon, such as a 'stool' or 'bench' (Butt Colson and Armellada 1989: 18, Cooper 2015: 89-90, 251, Cooper 2019b: 41). This 'stool' or 'bench' is called *yapon* among the Akawaio and *dapón* among Pemon groups (Lewy 2011). This term references the 'seat' or grounding of a variety of ontological forms (including illnesses). It can also refer to a womb or to other specific body parts, each of which has an *ewan* containing *akwa* energy. An *ewan* is located and returned by an Akawaio *piaiman* (i.e., a shaman) when it is missing (see Butt Colson and Armellada 1989; Cooper 2015, 2019b).¹⁷ Resonating with the human body, the landscape contains personhood and a multitude of these. Alleluia religious songs and prayers evince how the concept of *ewan* relates to the broader landscape and its fertility. For example, an Alleluia prophetic leader (called a *pukena'* in Akawaio) asks God (*papa*) in heaven (*hepun*) for a good harvest and fertile soil filled with *akwa* to generate life (Butt Colson 1976; Cooper 2015: 90; Cooper 2019b: 41).¹⁸

We will now consider a few examples (based on Akawaio *pantoni*) concerning how the landscape and its beings relate to the broader theme of pathogenesis within ethical contexts involving relations between humans and other-than-humans in the landscape. These ontologies and frameworks underpin understandings of COVID-19 among many Akawaio people.

Ownership and pathogenic reprisal within the landscape

During fieldwork in Phillipai Village, an Akawaio elder told Cooper a *panton* about a group of people who were travelling between Phillipai and Chinowieng villages many years ago. They observed a being near the surface of the ground that appeared to have the head of a savannah deer and the tail of a snake (anaconda) (Cooper 2015: 91-92; Cooper 2018: 18; Cooper 2019b: 41). When they looked closer, they eventually realised that it was actually a snake consuming a deer and pulling it down into a hole. The place where this occurred is now called *waiken yen* (meaning savannah deer cave). The Akawaio term *yen* refers generally to a contained space, enclosure, or 'increase site' within the geontological landscape (see Butt Colson and Armellada 1989; see also Oakley 2020). Multitudes of animals are contained, concealed, and released from these caves.

The exact location of *waiken yen* is a secret in Phillipai and access is restricted to elderly and knowledgeable hunters. Activating the *yen* facilitates enhanced access to game animals. Unauthorised or inappropriate usage may result in pathogenic reprisal from a non-human 'master' or 'owner' being, which is often called a *siwín* in Akawaio. A *piaiman* or

¹⁷ This relates to 'soul loss' as documented across Amazonia as a common form of illness treated by shamans.

¹⁸ Among the Pemon, the term *ewan* also can refer to a womb and to the *dapón* (or 'stool') of the heart, which is referred to as *ewan nepö*. In the context of Alleluia (also known as Areruya), the heart is strengthened by participating in religious rituals. The heart is the *dapón* of the escape-prone *yekaton* (soul) (see Lewy 2011: 70).

sometimes an elder can engage with the *siwín* to modulate the presence of animals in the area. For example, it can be used to reduce the animal population if they are harming gardens, or to increase them in times of need. The *siwín* contains or releases beings under its guardianship and control. To activate the *yen*, a stick is used to actively penetrate it, which results in animals emerging (Cooper 2015: 91-92). However, Cooper was told that 'troubling' the *yen* would result in the owners bringing sickness and possibly the destruction of the world. This connects the concept of *yen* to geontological pathogenesis, since *yen* are 'increase sites' in the landscape tied to masters or owners who can cause illnesses (Cooper 2015, 2018, 2019a, 2019b). Such potentially harmful beings are common within the Akawaio landscape.

In Akawaio *pantoni*, a significant *siwín* is linked to the white-lipped peccary (*Tayassu pecari*) and called Arimi (Cooper 2015: 149). This *siwín* frequently appears as a diminutive humanoid being with peccary hooves and a special walking stick. This stick is shaken by a *piaiman* or elderly man to call to Arimi when they want peccaries to be released. Arimi is notable for his use of special charms (called *muran* in Akawaio). In one *panton*, which was told to Cooper, Arimi instructs a young man in using *muran* to hunt tapir and indicates that he should leave the first few animals killed for the *muran* itself. If he violates this rule, either the *muran* or a 'master' of tapirs called *amaiyko'* may cause illness for the hunter or his family. Such notions of pathogenesis centre around animistic relations within the landscape as described in *pantoni*.

Pathogenesis and healing

As evinced in the *pantoni* above, illness and death (or post-human transformation) among the Akawaio are often seen as the result of various human and other-than-human agencies (see also Vilaça 2020a, 2020b). In contrast to Western models of illness, which are based on ontological naturalism and theorise disease as stemming from viruses, germs, or other impersonal physical vectors causing infections, or from genetic, environmental, or lifestyle origins, many Akawaio people view the causalities of pathogenesis as being personal, relational, and based in the intentions of one or more other beings. As described below, this extended for many people in Kamarang and Warawatta to COVID-19 (see also Vilaça 2020a).

Although there are 'health posts' practicing Western medicine in Akawaio villages today, traditional responsibility for healing and curing unwell persons falls under the remit of a specialised shamanic healer, as described above, who maintains allied relations (initially formed during training under an experienced practitioner) with other-than-human beings within the landscape and deploys these allies to affect healing, as well as sometimes to cause illness. Despite the current absence of such a healer in Kamarang and Warawatta, these notions remain common there. As such, both illness and healing occur within a relational nexus and 'spoiling' is often seen as the result of adverse actions taken by one or more actors within this context. A diagnosis of illness then centres around identifying the human being(s), i.e., sorcerer(s), who caused the illness and their related motivation, which might range from jealousy and envy to a perceived slight or offence. Pathogenesis can also centre around other-than-human actors. For example, the term *siwín*, as described above, refers to 'owner' or

‘master’ beings that are often said to cause illnesses if their domains are damaged or extracted from without permission or positive forms of reciprocity.

Across Amazonia, shamanic concepts of other-than-human ‘ownership’ or ‘mastery’ within the landscape, as found among the Akawaio in Guyana, have long been documented among Indigenous communities (see Allard 2019; Brightman et al. 2016; Costa 2010, 2017; Descola 2013; Fausto 2012b). For example, the Akawaio often mention ‘little people’ known as *poito’ma* or *amaiyko’* who are sometimes owners or masters. These beings are dangerous and generally associated with the forest, especially with areas called *potawa* where hunting and farming are disallowed. Cooper was told that you should leave an area if such beings become visible or else they will make you sick with their poison darts (see Whitaker and Daly 2025).

Humans can be ‘owners’ in various senses that include kinship (e.g., fatherhood), politics (e.g., village leaders), familiarisation (see Erikson 1987, Fausto 2012a), and bodiliness (see Butt Colson and Armellada 2001, Costa 2017). Owners lead and guard their wards and exact reprisals on humans who overly prey upon their domain or who fail to maintain proper relations with the owners. Hunters, fishermen, miners, and others who ‘take’ from the landscape are expected to give something (e.g., tobacco or alcoholic drinks) to the *poito’ma*. At a minimum, they should talk to them and inform them of their plans and intentions. Failure to do so may result in illness to oneself or one’s family members among various other negative repercussions (see also Whitaker 2020a, 2020b). In this context, illness results from imbalanced relationships with various agencies within the landscape and often requires shamanic intervention for full recovery. As such, pathogenesis derives from improper relations with other-than-humans.

Another vector of pathogenesis comes from human agency through the use of what are called *taren* (sometimes spelled *talen*) and *muran* (often called *bina*) among the Akawaio and their Indigenous neighbours (see Whitaker 2016a). *Taren* refers to spell-like magical incantations based on *pantoni* that centre around early creation time, which is sometimes referenced in terms of *pia’atai* (indicating ‘a time of origin’) (Cooper 2015: 96). This original time relates to the stories of the two brothers, as discussed above. *Taren* are used in a variety of contexts that range from hunting and weather magic to healing and sorcery. In the latter context, its effects emerge after the human user of *taren* (often called a ‘blowman’) invokes special words and thus ‘blows’ the person (Butt 1956). *Muran* have overlapping efficacy, but they take the form of charms that people make primarily from plant and animal materials (Cooper 2015: 98). They also have a broad range of uses and can be deployed to cause illness. In cases of ailments caused (or suspected to have been caused) by *taren* and/or *muran*, Akawaio people often say that the person has been ‘spoiled’ by someone. Similar concepts are present among the Makushi and other Indigenous groups in the region (see Daly 2015, Whitaker et al. 2024). The term ‘spoil’ is important here because it implies that someone or something has somehow inserted, injected, or otherwise placed something (whether physical or verbal) into the victim which has disrupted their life-force, created imbalance within them, and altered their being. This seems to be part of the context behind the local resistance among some Akawaio people to accepting the COVID-19 vaccine.

Mentioned and alluded to in writings since at least the early nineteenth century, the most well-known anthropogenic cause of illness and death in the Guianas is *kanaima* (see Hancock 1835; Hilhouse 1825; Whitehead 2002). Often called *e'toto* or *itoto* (meaning enemy) among the Akawaio, this refers to a practice (combining *taren*, *murán*, and physical assaults) that targets an individual and results in their physical death (Butt Colson 2001). Sometimes referred to as 'dark shamanism' (Whitehead 2002; Whitehead and Wright 2004), in contrast with the work of shamanic healers, this phenomenon in somewhat similar forms has been widely documented among Indigenous groups in the Guianas (see Whitaker et al. 2025), such as the Akawaio (Butt Colson 2001, Cooper 2015, 2025), Ingárikó (Amaral 2019, 2024), Makushi (Daly 2015, Whitaker 2016a, 2017, 2021b, 2025b), Patamona (Janik 2018; Whitehead 2002), and Pemon (Lewy 2018, 2025). In summary, it involves one or more disguised *kanaima* practitioners attacking a person while alone through assault and poisoning. It often involves piercing the tongue with snake fangs and inserting herbal substances into the rectum. The agency of *kanaima* also involves an intentional placement of something into the body that creates illness (through poisoning) and eventual death.

It is important to highlight that in relation to *taren*, *murán*, and *kanaima*, as well as illnesses stemming from affronted owners or masters in the landscape, the intentions and actions that cause harm are often believed to come from outside the victim's immediate group and generally outside their community. As such, illnesses and death are mostly associated with outsiders or other hostile beings as 'enemies' who seek to do harm to local people – often for violating ethical norms involving generosity or reciprocity. These conceptualisations and practices of illness took on new significance among the Akawaio with the COVID-19 pandemic and the related vaccine. Both are associated by some Akawaio people with outsiders and involve the insertion of substances into the body. Being an outside object, the vaccine has uncertain ownership from the perspective of many Akawaio people and as such has often drawn suspicion. Although they know that outsiders say it helps to prevent illness (i.e., COVID-19), they frequently suspect that it will 'spoil' them in ways that strongly overlap with traditional notions of sorcery and the causation of illness through the malevolent agencies of outside human and other-than-human beings. While local perspectives concerning these connexions vary and some Akawaio people (including many Indigenous healthcare providers) support COVID-19 vaccination, as indicated above, there are many Akawaio people who see parallels between the vaccine and traditional practices of sorcery. This provides broader context for the related reference to 'spoiling' that was narrated in the opening vignette.

Histories of pandemics and resistance

Resistance to public health measures concerning COVID-19 is also related to historical contexts of resistance against outside control. Akawaio people have a long history of interactions with outsiders in the circum-Mount Roraima region. During the eighteenth century, some Akawaio groups were allies of the Dutch colonial regime and aided in the suppression of revolts and attempts at freedom by enslaved persons of African descent – they were also involved in slaving raids (along with some Carib or Kariña groups) against other

Indigenous people (Hilhouse 1825: 37, Whitaker 2016a, 2016b, 2017, Whitehead 1988). During the early nineteenth century, Akawaio people emerge as potential allies of the British (Hilhouse 1825; see Burnett 2002: 25-26), but with a secretive means of resistance (similar to the Makushi) in a form of *kanaima* practice called *e'toto* or *itoto* in Akawaio (Hancock 1835: 44; see Whitaker 2017).¹⁹ After the initial abolition of slavery in British Guiana in 1834, their relations with outsiders often centred around missionisation. However, in the past and present, they have aimed primarily for autonomy in relation to outsiders and have resisted perceived territorial and societal incursions.

One of the most notable aspects of this resistance emerges in the context of the Alleluia movement, which arose out of attempts at missionisation in the broader region (Butt 1960, Cooper 2015). During the 1830s and 1840s, Anglican missionaries formed attraction points in the Bartica and Rupununi regions that drew in many Indigenous groups, including Akawaio people (Whitaker 2016a). However, these points also created spaces where epidemics often emerged and spread (see Whitaker 2025a).²⁰ For example, by June of 1835, a measles epidemic had begun at the Bartica Grove mission, which at the time was drawing in some Akawaio and Makushi persons (Whitaker 2016a: 115-116). By August, accusations of sorcery (involving poisoning) had emerged. In 1840, at a subsequent mission called Waraputa, the Anglican missionary Thomas Youd mentions recent deaths from an apparent epidemic and casually notes what appears to have been a death threat that was seemingly made against him by an Akawaio group (Whitaker 2016a: 139). This threat was likely in response to a rise in illness and suggests the use of sorcery as a means of countering pathogenic threats perceived to be coming from Europeans. For example, Youd was sometimes suspected by local people of causing the epidemics (see Bernau 1847: 82). Later, in July and August of 1841, Youd mentions a whooping cough outbreak at Waraputa and implies that recent illnesses had been attributed by some Indigenous people to sorcery in the form of *kanaima* (Whitaker 2016a: 146-147). Youd's untimely death in 1842 was also interpreted by some as resulting from sorcery-related poisoning (Bernau 1847; Im Thurn 1883: 34).

Several prophetic leaders and movements began to emerge concurrent with regional missionisation (Bernau 1847: 200-207; Posern-Zieliński 1978; Vidal and Whitehead 2004; Whitaker 2016a: 155). Many of these movements involved revitalisation (see Cooper 2015, 2020). With the introduction of Christianity, many Akawaio and other Indigenous villages converted and new religious movements started to emerge. The most institutionalised and documented such movement in the region is Alleluia. Along with its precursors and offshoots, it has been documented since the 1950s (see Abreu 1995, Amaral 2019, 2024, Butt 1954, 1960, Butt Colson 1971, 1985, 1998, Cooper 2015, 2020, 2024; Henfrey 1964; Lewy 2011; Staats 1996, 2009; Whitaker 2021b, 2025a; Whitehead 2002). Although similar movements had previously been recorded in the region, perhaps the first European encounter with Alleluia occurred in 1884 when Everard Im Thurn (1885: 266) witnessed a group of Indigenous

¹⁹ Potentially related references to surreptitious poisoning of enemies had actually been documented concerning the Akawaio as early as the 1760s (Bancroft 1766: 267-268).

²⁰ Although not in relation to Youd's missions, Hilhouse mentions the devastation wrought by small pox in the interior region (1825: 128).

people near Mount Roraima repeatedly shouting ‘Hallelujah! Hallelujah!’ (see Butt Colson 1985: 107; Whitaker 2016a: 254).

Concerning the origins of Alleluia, according to Akawaio oral history, there was a Makushi prophet called I’siwon (also known as Bichiwung and by other names) (Butt 1960, Butt Colson 1985, Cooper 2015: 216-217).²¹ I’siwon started out as a Makushi *piaiman*, but later became an Alleluia prophet after a trip to England and an encounter with God through dream visions.²² He founded Alleluia (Butt 1960), which provided a means for appropriating the religious authority, ritual practices, and objects of the European colonists and using these against colonisation (Posern-Zieliński 1978), as well as for self-transformation and revitalisation (Cooper 2020, Whitaker 2016a, 2021b, 2025a). Although Alleluia reportedly began among the Makushi in the Guiana lowlands, it moved to the Guiana highlands where it is still practiced (Cooper 2015: 227, 2020). It is also found in some Makushi, Patamona, Pemon, and Ingarikó communities in Guyana, Brazil, and Venezuela.²³

Reflecting their historical origins in the era of colonisation and missionisation, Alleluia churches among the Akawaio today continue to be focal institutions in efforts to resist outside influence and control. Adherents of Alleluia have historically often emphasised themes of resistance and autonomy (see Posern-Zieliński 1978, Staats 1996: 171). These themes are grounded in local history, as well as facilitated through highland geography (Cooper 2020). They are sometimes intertwined with conceptualisations of pathogenesis (including associations with COVID-19) as being rooted in human agency and malevolent intentions. This history helps to further clarify the apprehension toward the COVID-19 vaccine, masking, and related public health measures that Whitaker encountered among some Akawaio people in Kamarang and Warawatta during fieldwork in 2021.

Discussion

Akawaio *pantoni* depict a geontological landscape with animistic relations and normative ethics between human and other-than-human beings. Within the nexus of these relations, illness emerges as a potential consequence of pathogenic offences, agencies, and ethical ruptures. Although likely influenced by outside sources of information, as suggested by references to ‘chips’ and the ‘mark of the beast’ in local discourse, resistance to COVID-19 mitigation efforts among some Akawaio people is consistent with perspectives stemming from ontological understandings of the landscape, pathogenesis, and the potential malevolency of outsiders and other-than-human beings. It is also consistent with histories of Akawaio resistance to colonial and post-colonial intrusions. Ontologies and histories of resistance collide in opposition to vaccines and masks.

This article has shown how these contexts relate to local conceptualisations of pathogenesis through the agency of owners and masters who provide retribution for offences against the animals, plants, and other aspects of the landscape that constitute their wards, as

²¹ The name I’siwon refers to a being that is an owner or master (Cooper 2015, 2020).

²² An Alleluia prophet is known as a *pukena*’ in Akawaio and as an *ipukena* in Pemon (see Lewy 2011).

²³ The circum-Mount Roraima region contains 26 known Alleluia churches (Cooper 2020).

well as notions of pathogenesis stemming from human applications of *taren*, *muran*, and *kanaima* (*e'toto*) to affect illness and death. Similar to these forms of pathogenesis through the insertion of foreign substances into the body, the vaccine is often perceived locally as a vector not of wellbeing but of illness and death. As such, it resonates with imbalances in *akwa* caused by other penetrating objects and substances, such as the darts, poisons, and fateful words of human malefactors and other-than-human beings. Attempts to counteract these agencies sometimes involve Alleluia leaders' and members' efforts to use prayers and songs to ward off infection. Attempts also involve efforts by some individuals, such as the Akawaio mother described in the opening vignette, to guard themselves and others against what they often view as being 'spoiled' by the very things meant to prevent or mitigate against COVID-19.

The resistance and fear of being 'spoiled' by the COVID-19 vaccine that Whitaker encountered during his fieldwork in Warawatta and Kamarang among the Akawaio is also echoed in the region in the Arekuna (Pemon) village of Paruima. As explained by Audrey Butt Colson in an email correspondence (January 2022):

I am told by a Pemon informant who spent a year in Paruima that when a medical team arrived at Paruima the whole village refused to be vaccinated. They said that they knew people in general in the world needed the vaccine, so why were they getting it? So they reasoned it must be a plot to kill them. I think they must have heard about past nefarious practices in Brazil (e.g., clothes impregnated with smallpox, etc., which was the occasion for the foundation of 'Survival International'). I suppose they were not told the reason for mass vaccination everywhere.

Whitaker similarly heard about resistance among some people in Paruima from Arekuna villagers visiting from there during his fieldwork in Kamarang and Warawatta in 2021. For example, a leader from Paruima told him:

[...] we definitely doesn't want the vaccine. We doesn't know the facts, but what we believe [it] is something that is trying to control the world. We don't know exactly as what, but we know it's something further than that with the vaccine. People who make this COVID-19, they have a vision of what they doing. They have plans. So we [are] very sceptical now because of the vaccine.

The fact that many Pemon people similarly opposed and resisted the COVID-19 vaccine suggests that such resistance was not isolated to the Akawaio and Alleluia practitioners, but that it was likely widespread among some Indigenous communities in the circum-Mount Roraima region with its shared history of exploitation, violence, and epidemics. Many Indigenous groups in the region share similar histories and animist geontologies with the Akawaio.

Indigenous responses to epidemics, including the survival strategies and public health measures associated with COVID-19, have also been documented in connexion with Indigenous agency in other contexts in lowland South America. Indigenous voices have been critically important in the regional literature on COVID-19 (see Munduruku and Chaves 2020, see also De Souza et al. 2021). Indigenous experiences of confronting and coping with the

challenges of COVID-19 are broadly comparative despite many differences in local circumstances and strategies concerning the pandemic (see Espinosa and Fabiano 2022). The broader significance of these encounters and the continuing impacts of historical colonisation in the region must be considered (see Vilaça 2020a). This article further highlights these themes with a specific emphasis on the concepts through which Indigenous people (in this case the Akawaio) have engaged with COVID-19 and the public health measures associated with it (see also Lagrou 2020, Vilaça 2020b).

Although Indigenous people in Amazonia have been hard hit by COVID-19, responses to the pandemic have varied across the region. Some of the more positive outcomes involved intentional efforts at intercultural communication and working in partnership with Indigenous leaders and organisations (see Ramos et al. 2022). Some of the worst outcomes occurred in the Brazilian Amazon, which stemmed in part from the Bolsonaro government's reckless approach to the pandemic (Ferrante and Fearnside 2020). Areas of relative neglect, such as the Akawaio territory, have fallen in-between. Indigenous groups in some places had to create their own means of coping with the pandemic, which varied considerably in form and outcome (see Carvalho et al. 2021, Palacios 2021). Some scholars have broadly contextualised experiences and responses to COVID-19 within regional histories of epidemics, public health, and colonialism across lowland South America (see Espinosa and Fabiano 2022, Vilaça 2020a). Building upon this growing literature, this article has highlighted the intersections between the experiences and responses of many Akawaio people concerning COVID-19 and relevant local histories and geontologies. Given the lack of scholarship that specifically focuses on Akawaio histories with pandemics and vaccination, this article represents a significant and original contribution.

There remains a need for further research concerning how Indigenous peoples in the region variously conceptualise and engage with COVID-19 and other pandemics, epidemics, and related public health measures, as well as how these measures may be understood and responded to within the framework of regional geontological and historical contexts. There is also a need for further research to highlight specific contexts and diverse understandings, as well as to identify potential pathways for effective intercultural communication during crises. Such work demonstrates the value of anthropology and its focus on local understandings and experiences. This article contributes to this goal with a specific focus on some Akawaio understandings of COVID-19 and related public health measures within the contexts of historical colonisation, missionisation, and animist geontologies within the landscape of the Upper Mazaruni River basin of Guyana.

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Bibliography

Abreu, Stela Azevedo de 1995. *Aleluia: o banco de luz*, Universidade Estadual de Campinas: Master's thesis.

Allard, Olivier 2019. Amazonian masters in theory and in practice, *Journal de la Société des américanistes* 105, 125-41. doi: 10.4000/jsa.16997.

Amaral, Virgínia 2019. *Os Ingarikó e a religião Areruya*, Universidade Federal do Rio de Janeiro: Ph.D. thesis.

--- 2024. *Areruya and Indigenous prophetism in northern Amazonia*, London: Bloomsbury.

Armellada, Cesáreo de 1964. *Tauron paton*, Caracas: Ediciones del Ministerio de Educación.

Bancroft, Edward 1766. *An essay on the natural history of Guiana, in South America*, London: Becket and De Hondt.

Bernau, John Henry 1847. *Missionary labours in British Guiana*, London: J.F. Shaw.

Brightman, Marc, Fausto, Carlos and Vanessa Grotti 2016. Introduction: altering ownership in Amazonia, in Marc Brightman, Carlos Fausto and Vanessa Grotti (eds.), *Ownership and nurture: studies in native Amazonian property relations*, 1-35. Oxford: Berghahn.

Burnett, D. Graham 2002. It is impossible to make a step without the Indians: nineteenth-century geographical exploration and the Amerindians of British Guiana, *Ethnohistory* 49/1, 3-40. doi: 10.1215/00141801-49-1-3.

Butt, Audrey J. 1954. Systems of belief in relation to social structure and organization: with reference to Carib-speaking tribes of the Guianas, Oxford: D.Phil. thesis.

--- 1956. Ritual blowing: *taling* – a causation and cure of illness among the Akawaio, *Man* 56, 49-55. doi: 10.2307/2793660.

--- 1960. The birth of a religion, *Journal of the Royal Anthropological Institute* 90/1, 66-106. doi: 10.2307/2844219.

Butt Colson, Audrey 1971. Hallelujah among the Patamona Indians, *Antropológica* 28, 25-58.

--- 1976. Binary oppositions and the treatment of sickness among the Akawaio, in Joseph Buist Loudon (ed.), *Social anthropology and medicine*, 422-99. London: Academic Press.

--- 1985. Routes of knowledge: an aspect of regional integration in the circum-Roraima area of the Guiana highlands, *Antropológica* 63-64, 103-49.

--- 1998. *Fr. Cary-Elwes S.J. and the Alleluia Indians*. Georgetown: Amerindian Research Unit/University of Guyana.

--- 2001. Itoto (kanaima) as death and anti-structure, in Laura Rival and Neil L. Whitehead (eds.), *Beyond the visible and the material: the Amerindianization of society in the work of Peter Rivière*, 221-33. Oxford: Oxford University Press.

Butt Colson, Audrey and Cesáreo de Armellada 1989. The economic role of the shaman and its conceptual basis among the north Kapon and north Pemon of the Guiana highlands, in Juan Bottasso (ed.), *Las religiones amerindias: 500 años después*, 53-90. Quito: Ediciones Abya-Yala.

--- 2001. The Pleiades, Hyades, and Orion (Tamökan) in the conceptual and ritual system of Kapon and Pemon groups in the Guiana highlands, *Archaeology and Anthropology* 13, 8-46.

Carvalho, Patricia, Benitz, Tabatha, da Silva Vieira, Ercília and Fabio Pereira dos Santos 2021. O descaso e o esquecimento com os indígenas são antigos, não começou com o Covid-19, *Maloca: revista de estudos Indígenas* 4, 1-30. doi: 10.20396/maloca.v4i00.13878.

Cooper, Daniel G. 2015. Under Mount Roraima: the revitalization of a shamanic landscape and practice, Oxford: D.Phil. thesis.

--- 2018. Romancing the stone: Ka'pon and Pemon perspectives of Guyana's mineral landscape, *Archaeology and Anthropology* 22, 4-24.

--- 2019a. Beyond Ka'pon and Pemon ritual ant envenomation: the medicine, magic, and metaphor of landscape, *Archaeology and Anthropology* 23, 47-66.

--- 2019b. The spiritual geography of landscape, *PRism* 15/1, 34-49.

--- 2020. Alleluia and the Akawaio: the spiritual geography of a highland revitalization movement, in Walter Leal Filho, Victor T. King and Ismar Borges de Lima (eds.), *Indigenous Amazonia, regional development and territorial dynamics: contentious issues*, 239-55. Cham: Springer.

--- 2024. A spiritual history of Alleluia and the Pakaraima Mountains, in Elsie Elder, Rebecca Lee and Kay Siebler (eds.), *Sage research methods: diversifying and decolonizing research*. SAGE Publications.

--- 2025. Kanaima (e'toto) and the ecology of violence in the circum-Mount Roraima landscape, in James Andrew Whitaker, Matthias Lewy and Tarryl Janik (eds.), *Sorcery in Amazonia: a comparative exploration of magical assault*, 103-123. Berlin: Ibero-Amerikanisches Institut.

Costa, Luiz 2010. The Kanamari body-owner: predation and feeding in western Amazonia, *Journal de la Société des américanistes* 96, 169-92. doi: 10.4000/jsa.11332.

--- 2017. *The owners of kinship: asymmetrical relations in Indigenous Amazonia*. Chicago, IL: University of Chicago Press.

Daly, Lewis. 2015. The symbiosis of people and plants: ecological engagements among the Makushi Amerindians of Amazonian Guyana, Oxford: D.Phil. thesis.

De Souza, Alexandre Aniceto, Lizardo Salgado, Liliane, da Silva Rodrigues, Ozaias and Thiago Mota Cardoso 2021. Testemunhos etnográficos da pandemia: a COVID-19 entre povos indígenas e quilombolas na Amazônia, *Revista wamon* 6/2, 71-88. doi: 10.29327/217579.6.2-7.

Descola, Philippe 2013. *Beyond nature and culture*, translated by Janet Lloyd, Chicago, IL: University of Chicago Press.

Erikson, Philippe 1987. De l'appriovisement à l'approvisionnement: chasse, alliance et familiarisation, *Techniques & culture* 9, 105-40. doi: 10.4000/tc.867.

Espinosa, Oscar and Emanuelle Fabiano (eds.) 2022. *Las enfermedades que llegan de lejos: los pueblos amazónicos del Perú frente a las epidemias del pasado y a la COVID-19*, Lima: Fondo Editorial, Pontificia Universidad Católica del Perú.

Fausto, Carlos 2012a. *Warfare and shamanism in Amazonia*, Cambridge: Cambridge University Press.

--- 2012b. Too many owners: mastery and ownership in Amazonia, in Marc Brightman, Vanessa Grotti and Olga Ulturgasheva (eds.), *Animism in rainforest and tundra: personhood, animals, plants and things in contemporary Amazonia and Siberia*, 29-47. Oxford: Berghahn Books.

Ferrante, Lucas and Philip M. Fearnside 2020. Protect Indigenous peoples from COVID-19, *Science* 368/6488, 251. doi: 10.1126/science.abc0073.

Fox, Desrey 2003. Variants of Akawaio spoken at Waramadong, Rice University: Ph.D. thesis.

Hancock, John 1835. *Observations on the climate, soil, and productions of British Guiana*, London: Richard Taylor.

Henfrey, Colin 1964. *The gentle people: a journey among the Indian tribes of Guiana*, London: Hutchison & Company.

Hilhouse, William 1825. *Indian notices*, printed by Hilhouse.

Im Thurn, Everard F. 1883. *Among the Indians of Guiana*, London: Paul, Trench, and Company.

--- 1885. Roraima, *Timehri* IV/2, 256-67.

Janik, Tarryl 2018. A return to dark shamans, University of Wisconsin-Milwaukee: Master's thesis.

Lagrou, Els 2020. Nisun: a vingança do povo morcego e o que ele pode nos ensinar sobre o novo coronavírus, *Blog da Biblioteca Virtual do Pensamento Social*. <https://perma.cc/RK32-SP3P> (accessed on 15 December 2024)

Lewy, Matthias 2011. Die Rituale areruya und cho'chiman bei den Pemón (Gran Sabana, Venezuela), Freie Universität Berlin: Dr.Phil. thesis.

--- 2018. Los cantos de kanaima, *ILHA* 20/1, 90-115. doi: 10.5007/2175-8034.2018v20n1p89.

--- 2025. Kanaimaton and the sound of violence in the circum-Roraima region, in James Andrew Whitaker, Matthias Lewy and Tarryl Janik (eds.), *Sorcery in Amazonia: a comparative exploration of magical assault*, 83-102. Berlin: Ibero-Amerikanisches Institut.

Munduruku, Alessandra Korap and Kena Azevedo Chaves 2020. 'Precisamos estar vivos para seguir na luta': pandemia e a luta das mulheres Munduruku, *Mundo Amazónico* 11/2, 179-200.

Oakley, R. Elliott 2020. Demarcated pens and dependent pets: conservation livelihoods in an Indigenous Amazonian protected area, *Journal of Latin American and Caribbean Anthropology* 25/2, 248-65. doi: 10.1111/jlca.12479.

Palacios, Cynthia Cárdenas 2021. A agência indígena amazônica na pandemia de covid-19 no Peru, *Revista Wamon* 6/2, 89-107. doi: 10.29327/217579.6.2-8.

Posern-Zieliński, Aleksander 1978. Religious ferment among the Indians of British Guiana at the turn of the 19th century, *Estudios Latinoamericanos* 4, 97-125.
doi: 10.36447/Estudios1978.v4.art4.

Povinelli, Elizabeth A. 2016. *Geontologies: a requiem to late liberalism*, Durham, NC: Duke University Press.

--- 2020. The virus: figure and infrastructure, *E-flux architecture*. <https://perma.cc/8DW6-6X4E> (accessed on 23 December 2024)

Ramos, Danilo Paiva, Shankland, Alex, Barreto, Domingos and Renato Athias 2022. Indigenous leadership, anthropology and intercultural communication for COVID-19 response in the Rio Negro Indigenous territory, Brazilian Amazonia, *Anthropology in Action* 29/1, 32-46. doi: 10.3167/aia.2022.290105.

Staats, Susan K. 1996. Fighting in a different way: Indigenous resistance through the Alleluia religion of Guyana, in Jonathan Hill (ed.), *History, power, and identity: ethnogenesis in the Americas, 1492-1992*, 161-79. Iowa City, IA: University of Iowa Press.

--- 2009. Historical perspectives on Areruya communicative ideology, in Neil L. Whitehead and Stephanie Alemán (eds.), *Anthropologies of Guyana: cultural spaces in northeastern Amazonia*, 124-34. Tucson, AZ: University of Arizona Press.

Vidal, Silvia and Neil L. Whitehead 2004. Dark shamans and the shamanic state: sorcery and witchcraft as political process in Guyana and the Venezuelan Amazon, in Neil L. Whitehead and Robin Wright (eds.), *In darkness and secrecy: the anthropology of assault sorcery and witchcraft in Amazonia*, 51-81. Durham, NC: Duke University Press.

Vilaça, Aparecida 2020a. *Morte na floresta*, São Paulo: Editora Todavia.

--- 2020b. COVID-19, malaria and animal spirits: a few intercultural metaphors, *Social Anthropology/Anthropologie sociale* 28/2, 378-79. doi: 10.1111/1469-8676.12835.

Viveiros de Castro, Eduardo 1998. Cosmological deixis and Amerindian perspectivism, *Journal of the Royal Anthropological Institute* 4/3, 469-488. doi: 10.2307/3034157.

Whitaker, James Andrew 2016a. Continuity and perdurance among the Makushi in Guyana, Tulane: Ph.D. thesis.

--- 2016b. Amerindians in the eighteenth century plantation system of the Guianas, *Tipití* 14/3, 30-43. doi: 10.70845/2572-3626.1220.

--- 2017. Guns and sorcery: raiding, trading, and *kanaima* among the Makushi, *Tipití* 15/2, 158-72. doi: 10.70845/2572-3626.1268.

--- 2020a. Climatic and ontological change in the Anthropocene among the Makushi in Guyana, *Ethnos* 85/5, 843-860. DOI: 10.1080/00141844.2019.1626466.

--- 2020b. Strategic alliance and the Plantationocene among the Makushi in Guyana. *Social Anthropology/Anthropologie sociale* 28/4, 881-896. DOI: 10.1111/1469-8676.12784.

--- 2021a. Totemic outsiders: ontological transformation among the Makushi in Guyana, *Religion and Society* 12, 70-85. doi: 10.3167/arrs.2021.120106.

--- 2021b. Sorcery and well-being: bodily transformation at Beckeranta, *Anthropology & Medicine* 28/1, 78-93. doi: 10.1080/13648470.2020.1807726.

--- 2025a. *The shamanism of eco-tourism: history and ontology among the Makushi in Guyana*, Cambridge: Cambridge University Press.

--- 2025b. Armas y brujería: robo, intercambio y kanaima entre los Makushi, translated from English by Claudia Cornejo Simbala, in James Andrew Whitaker, Matthias Lewy and Tarryl Janik (eds.), *Sorcery in Amazonia: a comparative exploration of magical assault*, 29-60. Berlin: Ibero-Amerikanisches Institut.

Whitaker, James Andrew and Lewis Daly 2025. On Amazonian magical darts, *Folklore* 136/4, 759-781. doi: 10.1080/0015587X.2025.2550866.

Whitaker, James Andrew, Lewy, Matthias and Tarryl Janik (eds.) 2025. *Sorcery in Amazonia: a comparative exploration of magical assault*. Berlin: Ibero-Amerikanisches Institut.

Whitaker, James Andrew, Tamboli, Vikram, Daly, Lewis and Matthias Lewy 2024. Assault and attraction: plant agency in traditional practices and extractive frontiers in the Guianas, *Journal of Ethnobiology* 44/4, 347-359. doi: 10.1177/02780771241277618.

Whitehead, Neil L. 1988. *Lords of the tiger spirit: a history of the Caribs in colonial Venezuela and Guyana, 1498-1820*, Providence, RI: Foris Publications.

--- 2002. *Dark shamans: kanaimà and the poetics of violent death*, Durham, NC: Duke University Press.

Whitehead, Neil L. and Robin Wright (eds.) 2004. *In darkness and secrecy: the anthropology of assault sorcery and witchcraft in Amazonia*. Durham, NC: Duke University Press.

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