



Speculative Black Digital Territories in Brazil

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ABSTRACT

This article explores the development of speculative Black digital territories in Brazil and examines the challenge they pose to online architectures of social control. It does so through an analysis of Baobáxia, an autonomous digital infrastructure project that connects the audio-visual archives of quilombo communities. I place Baobáxia, which is run by Rede Mocambos, within a spectrum of strategies of Black digital territorializations in Brazil before carrying out a closer analysis of the hesitation it evidences between seeking permanence for the archives of its communities and turning network precarity into a strategy of resistance against digital capitalism. The article ends by considering the Baobáxia network as an enactment of speculative technology by placing it in the context of recent works of Afrofuturist science fiction, including the 2019 film *Bacurau*, that have reimagined the quilombo for the digital age. While Big Tech platforms use online data to predict and therefore control the behaviour of internet users (which Sun-ha Hong describes as “technologies of speculation”), Baobáxia takes a step towards placing control of the future in the hands of communities and therefore reinstating the possibility of a future that might be different to the present.

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TO CITE THIS ARTICLE:

King, Edward 2023 Speculative Black Digital Territories in Brazil. *Modern Languages Open*, 2023(1): 40 pp. 1–15.
DOI: <https://doi.org/10.3828/mlo.v0i0.447>

The production of race and the social construction of territory in Brazil have always been closely intertwined. In a foundational article published in 1989, Raquel Rolnik critiques a tendency among urban studies scholars to contrast the race-based ghettoization of North American cities with the “promiscuidade racial” [racial promiscuity] (29) that characterizes socially and economically marginalized neighbourhoods in the cities of Brazil. Instead, she identifies the continued existence, since the birth of the Republic at the end of the nineteenth century, of the segregation of Afro-Brazilian populations. This has functioned through a number of processes, from the land restriction laws of the First Republic, which “demand[ed] formalized legal papers to prove landownership” thereby rendering less formalized occupations of land illegal (Silva and Paixão 176), to how, as Lorraine Leu puts it, “urbanization function[ed] as a technology of racial oppression” (Defiant 6). This took place through, for example, the redevelopment of the centre of Rio de Janeiro during the first decades of the twentieth century and the removal of *favela* dwellers (or “remoções”) in anticipation of the Fifa World Cup and Olympics. Just as the “arquitetura totalitária” of the *senzalas* (slave quarters) produced, as an unintended by-product, a space for “um devir negro, afirmação da vontade de solidariedade e autopreservação que fundamentava a existência de uma comunidade africana em terras brasileiras” [a Black becoming, an affirmation of the will to solidarity and self-preservation that provide the foundations for the existence of African communities in Brazilian territory], urban segregation has produced what Rolnik calls “territórios negros” [black territories] (30). Though recognizing the risk of romanticizing these communities by positioning them as somehow outside of modernity, she argues that these spaces function through alternative logics to the State, which are perceived as a threat (“território marginal é território perigoso” [a marginal territory is a dangerous territory]) from which “pode nascer uma força disruptora sem limite” [there emerges an unlimited disruptive force] (39).¹

While the mediation of societies by computer systems has transformed relationships between identification and space in many ways, from the proliferation of deterritorialized identities to transnational social movements, the transition to the digital age has also been marked by clear continuities. North American media studies critics have pointed out how, in Charlton McIlwain’s words, the internet “mobilizes a spatial logic online that mirrors the spatial/geographical production of racial inequality offline” (1076). In his analysis of the logic of online search engines, McIlwain identifies “segregated traffic patterns” that “lead to segregated destinations” (1087) which “comport with historical and geographical racial formations” (1086). The concept of “data colonialism”, meanwhile, enacts a metaphor that assumes a continuity between historical and digital geographies of oppression. Sociologist Anat Ben-David argues that “[i]t makes sense to think of data as space and as a geographical concept of territory that is occupied and controlled by certain actors enacting epistemic power upon people living in a piece of land” (quoted in Thorsen). Big Tech platforms “behave like colonial powers in the way they confiscate land and appropriate more and more data territory by buying more and more land”. While the concept of data colonialism is often deployed in a way that disconnects it from historical experiences of colonization, Syed Mustafa Ali and others have employed the concept of “algorithmic racism” to insist on the continuity of “racialized logics of coloniality” (3) underlying datafication.

This continuity between racialization in offline and online space has been clearly visible in Brazil. James Holston and Rodrigo Ochigame have pointed out how Facebook’s algorithms serve to silence Indigenous activists in a way that echoes and reinforces their historical and ongoing exclusion from broadcast media. This dynamic is particularly visible in the case of land rights activism, since in Brazil there is “considerable overlap between land and media ownership” (99).² Facebook’s algorithmic connection between popularity (defined through the number of “likes” a post receives) and visibility, coupled with the process of “similarity filtering” which “reduces the exposure of users to political perspectives other than their own” (102), have silenced the work of activists seeking to use social media to give voice to the Indigenous protagonists of

1 Lorraine Leu describes these Black spatial practices as deviant or defiant in that “they created meanings and spatialities that deviated from those sanctioned by dominant social groups” (“Deviant” 180).

2 A single family, the Marinho family, controls the largest media corporation in the country and owns a network of farms that produce coffee, soy and cattle.

land struggles. Scholars have demonstrated how datafication in Brazil has served to reinforce historical racialized spatial boundaries. David Nemer, for instance, has pointed out that territorial and digital exclusion are often closely intertwined for the residents of the country's many *favelas*, informal settlements occupying the peripheries or interstices of Brazil's urban centres. "[T]echnological normalcy in favelas involves experiencing the continually dropping signal, the broken keyboard ... Infrastructural breakdown is [...] the crucible in which the rhythms of everyday life must be forged" (*Technology* 34). Digital inclusion, meanwhile, can often reproduce racial hierarchies while seeming to serve the interests of overcoming social divides. Jason B. Scott points out that digital inclusion initiatives run by non-profit organizations in Rio's favelas during the early 2010s, while often leading to "transformative form[s] of citizenship that challenged socio-economic and political marginalization" (107), also ultimately served the interests of the State's "pacification" agenda by exposing inhabitants to online surveillance and control (119).

Following their analysis of how social media algorithms reinforce racial biases and the territorial configurations that undergird them, Holston and Ochigame outline three potential solutions: 1) the "legal regulation of existing platforms"; 2) the "subversion of existing platforms", for example through the manipulation of algorithmic systems to maximize the visibility of activists or amplify voices of protest; and 3) "the creation of new platforms organized according to more democratic criteria" (108). Recent years have seen both an intensification of what *Tarcizio Silva*, echoing Ali, describes as "racismo algorítmico" in Brazil (particularly through the extensive use of facial recognition surveillance systems) and an increasing number of social, technological and artistic projects that aim to expose and challenge these biases. These often combine elements of the second and third solutions described by Holston and Ochigame. For instance, in 2017, the charitable organization Olabi, which campaigns for the democratization of the production of technology in Brazil, launched a new initiative called PretaLab, aimed at stimulating the inclusion of more Black women in innovation and technology. The director of PretaLab, Silvana Bahia, argues that it is important to shift the focus in debates around digital inclusion for Black and Indigenous communities from increased access to digital networks to participation in the production of software systems that serve their interests.³

While racial segregation has continued into digital or virtual spaces, so too has the production of what Rolnik describes as Black territories. The aim of this article is to outline how Black digital territories in Brazil function and the challenge they pose to the online architectures of social control. I will do this through an analysis of Baobáxia, a digital infrastructure system run by Rede Mocambos, which is a project developed by the Afro-Brazilian cultural centre Casa de Cultura Tainã. First conceptualized in 2014, Baobáxia is a computer network and multimedia repository designed to work in communities with little or no internet access, which aims to support the "compartilhamento e conservação do patrimônio cultural das sociedades de territórios remanescentes afro-brasileiras, urbanas ou remotas" [dissemination and preservation of the cultural patrimony of the societies based in territories of Afro-Brazilian origin, both urban and remote].⁴ Described by its developers as a digital *quilombo*, a term traditionally employed in Brazil to describe communities that trace their origins to groups of escaped slaves, Baobáxia deploys a complex temporality in that it invokes memories of Afro-Brazilian oppression and resistance while speculatively enacting a future in which digital systems can produce alternatives to algorithmic racism and support the existence of autonomous communities. In what follows, I will place Baobáxia within a spectrum of strategies of Black digital territorializations in Brazil before carrying out a closer analysis of its digital-territorial strategy, including the hesitation it evidences between seeking permanence for the archives of its communities and turning network precarity into a strategy of resistance against digital capitalism. The article ends by considering the Baobáxia network as an enactment of speculative technology by placing it in the context of attempts to imagine autonomous Black digital territorialities in recent Brazilian Afrofuturist science fiction.

³ There have been similar projects in the digital arts. Many digital inclusion projects focus on artistic production. Scott, for example, discusses the Eco-Cine project, which ran in Rio during the 2010s and "combined ecology, digital filmmaking and citizenship" (118). The Contos de Ifá project, based in the outskirts of the city of Olinda, produces educational videogames around Afro-Brazilian themes while teaching game design as a form of digital literacy.

⁴ <https://mocambos.net/tambor/pt/baobaxia>.

The racialized digital territorialities in Brazil that have received the most critical attention have been those that pursue the second “solution” outlined by Holston and Ochigame: namely, the subversion of existing technological platforms. The example outlined by Holston and Ochigame involves a *détournement* of Facebook’s visibility algorithms. Noticing that their posts about Guarani and Kaiowá land disputes were not receiving any attention beyond their already-existing followers, in 2014 the members of activist organizations such as Aty Guasu changed their surnames on their Facebook profiles to “Guarani-Kaiowá”. Since surnames are not subject to algorithmic filtering, the strategy raised the profile of the campaign by catching the attention of a wider public.⁵ This is an example of what Luke Heemsbergen, Emiliano Treré and Gabriel Pereira label “algorithmic antagonism”, a term used to describe the use of “traits in computational automation for disruptive political ends” (5). “Rather than resist algorithmic ways of life”, projects such as DoNotPay, Allthemusic and Zoomescaper “explicitly leverage computational affordances to tactically shift power dynamics within specific computational systems” (4). The “Guarani-Kaiowá” surname tactic leveraged the affordances of Facebook’s popularity algorithms (as well as the blind spots in these algorithms) to increase the visibility of the cause of Guarani and Kaiowá people engaged in struggles for land. In the process, they carved out a space of belonging – if only a transient one – in which to perform their identities and make their claims within the digital public sphere.

This strategy is in keeping with one of the key characteristics of Brazilian digital cultures identified by critics: a strong tradition of both tactical media movements and popular appropriation. Heather Horst argues that one of the characteristics of the Brazilian internet that set it apart from other national contexts during the early 2000s was “the central importance of social engagement and activism” (443). This was evident both in State attempts to support digital inclusion during the regime of Lula da Silva (president from 2003 to 2011) as well as the country’s protagonism in grassroots strategies such as the free software movement and digital inclusion projects centred on the critical appropriation of computer systems (including the MetaReciclagem project focused on the reuse of “obsolete” hardware). Ricardo Rosas and Giseli Vasconcelos developed the term “digitofagia” to describe a predisposition within Brazilian culture towards tactical media activism. The term is an amalgamation of the word “antropofagia”, which means anthropophagy or cannibalism, a reference to the highly influential avant-garde “Cannibalist Manifesto” of 1928 in which Oswald de Andrade describes Brazil as a culture of creative borrowing, with digital culture practices. These include “pirating, the strategies of street sellers, ‘gambiarra’ [a Brazilian term for improvisatory work-arounds], [and] the indiscriminate and illegal practice of spontaneous sampling and remixing” (Rosas and Vasconcelos 9). Implicit in the avant-garde concept of “antropofagia”, and its use of the anthropophagous Indian as a national symbol, was a celebration of *mestiçagem* as a cornerstone of Brazilian identity in defiance of a colonial discourse that associated racial mixing with backwardness and degeneration. This appreciation of *mestiçagem* was subsequently incorporated into one of the dominant discourses of the State, which positioned Brazil as a “racial democracy” – a myth deployed by authoritarian regimes throughout the twentieth century to gloss over the continued and stark existence of racial inequalities. The concept of digitofagia placed race at the centre of attempts to articulate Brazilian culture on the internet and, in the process, asserted the language of race at a time when the internet was being celebrated in North America and elsewhere as a “colorblind” space (Nakamura). However, despite digitofagia’s intention to produce a space for decolonial experimentation with digital technologies, by reproducing a romanticized image of Indigenous resistance within an elite cultural discourse it risks reproducing the oppressive racial logic of *mestiçagem*.

The main focus of the strong tradition of Black media activism during this period was the production of alternative audio-visual media, which Reighan Gillam defines as the creation of “visual images that offer new possibilities for representing Black subjectivities [and] contribute to antiracist activism and perspectives”. The development of Black digital territories, however, has arguably been most visible at the level of popular software usage. Gabriel Pereira, Iago Bojczuk and Lisa Parks point out how “Brazil’s IT adopters have an intriguing history of quickly

5 When a Brazilian academic I followed on Facebook at this time changed his surname to Guarani-Kaiowá, I was encouraged to carry out some research into the dispute.

appropriating digital media technologies from the Global North and inscribing them with local cultural values” (6). The most frequently cited example of this history is the popularity of the social media site Orkut, which was founded by Google in 2004 and, by 2008, had become one of the most popular websites in Brazil. It was only when Orkut gained the reputation of being the online home for lower-class populations such as favela dwellers that middle-class users migrated to Facebook in a form of virtual “white flight”. As Reis points out, the term “orkutização” [orkutization] was subsequently used to refer to this “popularization” of online spaces, a label that carries with it an implicit racial reference to the appropriation of digital platforms for and by Black Brazilian cultures (quoted in Nemer, “Repensando” 177). The process of orkutização foreshadows the phenomenon of Black Twitter, which André Brock Jr defines as “an online gathering (not quite a community) of Twitter users who identify as Black and employ Twitter features to perform Black discourses, share Black cultural commonplaces, and build social affinities” (81). Like Black Twitter, orkutização is the production of what Catherine Squires describes as a Black “counterpublic” that, in Brock Jr’s words, “occup[ies] and reclaim[s] dominant and state-controlled public spaces while strategically using enclaved spaces” (86). The reaction of middle-class (predominantly white) users to “Black” appropriations of Orkut in Brazil, expressed in racist memes and the act of fleeing the social media site, also anticipates the dismissal of Black Twitter as “immature” and “ineffective” (Brock Jr 87). Like Black Twitter, the value of Black Brazilian Orkut was not in its formal articulation of “demands for state recognition of Black humanity”, but rather in its creation, through the “banal contributions” of Black users, of a “digital/virtual space where Blackness frames the politics of the everyday” (Brock Jr 88).

The “banality” of the contributions of Orkut users positions orkutização as an example of what Nemer terms “mundane technologies” and describes as “the oppressed’s processes of appropriating everyday technologies – technological artifacts, operations, and spaces – to alleviate oppression in their everyday lives” (*Technology* 8). As mundane technology, orkutização is ephemeral (and was shut down when Orkut was dissolved in 2014) and contingent on the specific affordances of the site. Furthermore, the virtual space of Black Orkut intersected with Brazil’s urban geographies of racial oppression and the uneven digital infrastructures that reinforce them. Black Brazilian Orkut, for instance, was primarily inhabited by favela dwellers who accessed it from privately run and locally owned cybercafés known as LAN houses, established to service local communication needs, or state-funded telecentres intended to bridge the digital divide. The digital space of Black Orkut only makes sense in the context of the urban space of the favela. Other examples of mundane technologies that have enabled the construction of Black digital territories similarly intersect virtual spaces with urban segregations. “Rolezinhos” is a term used to describe a type of flash mob carried out by lower-class (and mainly Black) youths in upper-middle-class shopping centres from which they are usually excluded. As much as the gatherings themselves, it was the strong reactions of the police that sparked debate when they first attracted public attention around 2013. This draconian policing revealed the implicit class and racial segregations that govern urban space in Brazil. Despite their lack of specific political demands, the rolezinhos were, as Pedro Erber puts it, “pok[ing] the still sensitive (and some open) wounds of race and class relations in contemporary Brazil” (38). Whereas orkutização turned Orkut into what users perceived to be an enclave of Black Brazilian culture, the rolezinhos used the affordances of social networks to stage interventions in urban space. One of the critical effects of the rolezinhos was to reveal the intersections and layers of geographical and virtual territorialities. The social media networks employed to organize the rolezinhos were used as mundane technologies to set up temporary Black digital territorialities across the racial segregations of the city.

DIGITAL QUILOMBO

The intersection between geographical and digital territorialities is one of the key starting points of Baobáxia. The project provides the digital infrastructure for Rede Mocambos, an initiative developed by the Campinas-based Afro-Brazilian cultural centre Casa de Cultura Tainã, the intention of which is to connect existing rural and urban quilombos across Brazil. The aim of Baobáxia is to achieve this while, at the same time, emulating the territorial qualities of quilombo communities in the digital realm. This is attempted through the development of a distributed autonomous network linked through satellite hookups and free software that avoids

reliance on Big Tech internal portals. The intention to establish a parallel between physical and digital territorialities is displayed in the language used by the project. The term “mocambo”, which literally means “hut”, refers to communities of runaway slaves in colonial Brazil that were smaller in size than more developed quilombos. The term “Baobáxia” is an amalgamation of the word baobab and “galáxia” [galaxy] in reference to the project’s intention to construct a galaxy of baobab trees, which, as a source of shelter, food and water, commonly constitute the centres of communities in rural Africa. The nodes of the Baobáxia network, whether they be computer centres or single hard drives, are known as “mucuas” after the nutritious fruit of the baobab tree.

The term “quilombo”, developed from the Kimbundu word “kilombo”, which literally means “war camp”, has accrued a range of different meanings since its original use in the colonial period to refer to communities of escaped slaves. In his influential article-manifesto of 1980, Abdias do Nascimento, drawing on the history of quilombo communities developed by Afro-Brazilian historian Beatriz Nascimento, describes “quilombismo” as a decolonial “Afro-Brazilian *praxis*” (152) that adapts “African traditions of communitarianism” (161) to the Brazilian environment. The constitution of 1988, introduced following the transition to democracy after military rule, set in train a series of redefinitions. In Article 68, the Brazilian government conceded land rights to descendants of the inhabitants of freed slave communities, stating that: “definitive ownership will be recognized, and the respective title will be issued by the State, to those descendants [*remanescentes*] of the maroon communities occupying their lands” (quoted in [de la Torre 105](#)). As Oscar de la Torre points out, this “apparently inoffensive article” (105) sparked a frenzy of debate and activity around the meaning of “quilombo” and how to prove descentance. In 2003 the federal government produced a more concrete definition of the term through Decree 4887, which described quilombos as “self-designated ethno-racial groups who have their own historical trajectory, specific territorial relations, and a presumed black ancestry related to the historical oppression they have suffered” (quoted in [de la Torre 109](#)). Partly as a consequence of activism by Black rural inhabitants in response to the opportunity opened up by Article 68, de la Torre argues, “the government finally established explicitly that by quilombos it meant communities formed by black peasants in general, not only by runaway-descendants” (109). So rather than areas of land that have historically been inhabited by runaway slaves and their descendants, the term came to refer to a specific form of what Ilka Boaventura Leite describes as “territorialidade Negra” [Black territoriality] (“O projeto” 967) arising from “contextually specific notions of land access and natural resource use” (“Brazilian” 1225) including “collective agricultural practices [that] contrast with dominant plantation monocropping” (“Brazilian” 1235). This echoes Nascimento’s association of Quilombismo with the treatment of land as “an asset of collective use” (168).

Whereas attempts to trace connections between contemporary Black urban and rural communities and those of runaway slaves constitute what Leite describes as “trans-historical” uses of the term quilombo, and Decree 4887 introduced a “juridical-formal” definition, Baobáxia mobilizes a “post-utopian” use of the term ([Leite, “Brazilian” 1227](#)). For Leite, the “post-utopian quilombo” avoids “nostalgic” notions of the term and instead “promot[es] a heroic understanding rooted in a radical transformation of society” grounded in “a deconstruction of color and race as a criterion of exclusion” (“Brazilian” 1227). As a “post-utopian quilombo”, Baobáxia emerges from the intersection of two dynamics. The first is the anti-racist movement outlined by Leite and the second is the digital inclusion movement. During Lula da Silva’s first presidential term, from 2003, improving digital inclusion was a key aim of the federal government. As Minister of Culture, Tropicália icon Gilberto Gil, taking advice from media activists, sponsored a programme intended to democratize both access to and the production of culture through free software and open knowledge. The “Pontos de Cultura” project, which funded media centres based in community spaces across the country, including in favelas and socially deprived neighbourhoods (by 2010 there were more than 1500), became a model for approaches to free software among policymakers in Europe and North America. One of the main priorities of this phase was to increase access to digital technologies and networks as a way of fomenting a more inclusive mode of citizenship. Although it was founded in 1989, Casa de Cultura Tainã was committed to the digital inclusion agenda. The Rede Mocambos project is an expression of the conviction expressed by founder TC Silva, in a promotional video published in 2010, that “[é] muito importante para essas comunidades [quilombos] estarem incuídas

socialmente e digitalmente” [it is crucial for these quilombo communities to be included both socially and digitally].

However, by 2014, when Rede Mocambos was developing Baobáxia as its new digital infrastructure, “digital inclusion” had ceased to become the main objective of media activists. Felipe Fonseca, one of the founders of the digital inclusion project MetaReciclagem, identifies 2011 as a turning point. With the establishment of a Department for Digital Inclusion, the Secretaria Nacional de Inclusão Digital, the government attempted to centralize the range of digital inclusion projects that had, up to that point, been functioning in a decentralized and grassroots manner. This attempt at centralization exacerbated tensions between two different worldviews within the digital inclusion movement: on the one hand, those who thought that digital inclusion should focus on the construction of community spaces for access to and critical experimentation with digital technologies; and, on the other hand, those within the Secretaria who thought the answer lay in encouraging individual private ownership of digital technologies through, for example, low-cost mobile phone contracts. It was this latter vision that became more established. The increasing individualization of digital technologies, coupled with the rise to dominance of Big Tech platforms, further discredited the notion of digital inclusion among media activists. If digital inclusion increasingly meant access to the internet through platforms that expose users to misinformation and data surveillance, then it no longer seemed such a worthwhile goal. In an interview given in 2021, [TC Silva](#) claims that, despite their close involvement in digital inclusion projects in the early 2000s, Casa de Cultura Tainã always questioned the concept of inclusion. “Who is being included? And where? [...] We don’t always want to be included. Sometimes we don’t want in, we want out. [...] We always preferred the term ‘technological appropriation.’”

The Baobáxia project emerged from the intersection between the quilombo movement initiated by Article 68 and a growing dissatisfaction with a concept of digital inclusion that led to a greater individualization of technology and incorporation into the exploitative system of digital capitalism. The project was developed by long-time collaborator and “parceiro” of Casa de Cultura Tainã and Rede Mocambos, Vincenzo Tozzi. [Carsten Agger](#), a software developer and collaborator on the project, explains how he met Tozzi at the first International Festival of Technoshamanismo in Bahia, Brazil. The project’s origins in discussions that took place in the context of technoshamanism illuminate the connections between territoriality and autonomous digital networks that Baobáxia is articulating. As Agger explained at a Digital Experience Conference in 2017, the festival alternated between sessions on free software and sessions on “reconnecting with the earth with an ecological perspective through permaculture” alongside a more spiritual side that involved “connecting with the lifestyles of the Indigenous communities”. As one of the founders Fabiane Borges puts it in an [interview with Bia Martins and Reynaldo Carvalho](#), the aim of the second international technoshamanism festival, which took place in a Pataxó village in Pará, was to “explore connections between food autonomy” (through permaculture strategies) and “media and technology autonomy”. Baobáxia repeats this strategy in the context of the Black territorialities of quilombo communities.

PERMANENCE AND PRECARIETY

The Baobáxia project is characterized by a tension between two seemingly opposing strategic aims: permanence for the collective memory stored in its digital archive and an embrace of precarity and mobility as a strategy of resistance against the politics of the State and Big Tech platforms. Natacha Roussel and Ariane Stolfi point out that the strategy of precarity is inscribed into the name Rede Mocambos, since the term “mocambo” refers to “the precarious houses that might serve as hideouts in the middle of the woods [which] were often used by the quilombos” (6). While the term “draws on the insurrectionist strength of quilombo communities”, it also invokes “the precariousness that the group is working with” (6). So precarity is both resisted and intensified. This tension is particularly visible in the project’s treatment of the issue of archives. One of Baobáxia’s primary aims is to provide an infrastructure through which to protect the archives of a network of communities whose collective memory has historically been systematically devalued and undermined by the institutions of Western modernity. The undermining of archival permanence has its roots in the practice of slavery, which enacted a traumatic severance between enslaved people and the collective memories of their communities. In many ways, the repression of this traumatic memory is constitutive

of the system of capitalist modernity, since it enabled enslaved people to be constructed as commodities and reduced to their exchange value. Therefore, the Baobáxia project belongs to what Kodwo Eshun, using a term developed by Michel Foucault, describes as the “tradition of countermemory” (289) in its attempt to “assemble counter-memories [of slavery and its legacies] that contest the colonial archive” (288) that has excluded them.

One of the main strategies that Baobáxia employs in its resistance against the precarity of its archives through a struggle for the permanence of the collective memories of its communities is to reaffirm the connection between archive and territory that has been partly obscured by the digital infrastructures of Big Tech companies. Against the obfuscations of the concept of “cloud computing” and the way it evokes the dematerialization of information, Baobáxia emphasizes the materiality of its network through the language it uses and its non-reliance on continual internet connectivity. Each “mucua” or node refers to a tangible hard drive or collection of hard drives that are connected to a data centre based in Casa de Cultura Tainã’s headquarters in Campinas. In his explanation of the project, Tozzi emphasizes this connection between digital infrastructure and territory. When you find the Baobáxia network through your internet browser, Tozzi explains, “você vai entrando numa máquina num data centre lá na Casa de Cultura Tainã [...] são todas ferramentas que funcionam sempre numa infra-estrutura normalmente oferecida pelas grandes corporações” [you enter into a machine in a data centre based in the Tainã Cultural Centre [...] these are all tools which function within an infrastructure that is usually provided by big corporations]. It is this autonomy from Big Tech platforms together with the connection between archive and territory that constitutes a “digital territory”: “Dessa forma a gente consegue ir constituindo aos poucos o nosso próprio território. Isso é que a gente chama de território digital” [This way we can gradually construct our own territory. This is what we call digital territoriality] (Tozzi, “Oficina”). Creating an autonomous data centre that would support the permanence of the archive was a particularly pressing concern for the founders of Baobáxia, considering that some of the key archives of the digital inclusion projects of the early 2000s, such as those housed on culturadigital.org.br, had been lost.

However, this search for archival permanence in the Baobáxia project is in tension with its strategic embrace of precarity. In many ways, this is making a virtue out of a necessity, since the Baobáxia network became necessary precisely because of the precarity of digital infrastructure in rural Brazil and its urban peripheries. In this respect, Baobáxia echoes radical aesthetics of the twentieth century such as Glauber Rocha’s “aesthetics of hunger” and Rogério Sganzerla’s “aesthetics of garbage” that, in Robert Stam’s words, “share the jujitsu trait of turning a strategic weakness into a strength” (275). The fact that many of the communities in the Rede Mocambos network cannot rely on constant and efficient internet connectivity became the conceptual premise of the Baobáxia project. Tozzi’s 2011 thesis, which laid the conceptual groundwork for what became Baobáxia, uses the term “rede federada eventualmente conectada” [intermittently connected federated network] to describe a network that cannot rely on synchronous connectivity across all of its nodes. Flexibility and adaptability to contingencies and different technologies are of primary importance to a federated network “entendida como um conjunto de soluções tecnicamente viáveis e adaptáveis a usos, práticas e contextos diferentes, que permita uma gestão flexível da rede, com sub-redes heterogêneas, aproveitando diversas tecnologias” [understood as a set of solutions that are technically viable and adaptable to a variety of uses, practices and contexts, which enables a flexible management of the network, with heterogeneous sub-networks that employ different technologies] (Tozzi, *Redes* 6). The connectivity of the network is provided via satellite by the federal government’s GESAC programme, which provides each community with a Very Small Aperture Terminal (VSAT). However, this system is not always reliable and its connections are not always possible.

The tension between permanence and precarity in the infrastructure of the Baobáxia archive is mirrored at the level of its interface. The aesthetics employed on the baobaxia.net webpage emphasize the connection between digital territory and physical land through the metaphor evoked by the project’s title. The landing page is split into two by a wavy horizontal division across the centre of the screen. Above the line are baobab trees silhouetted against the night sky, and below is the earth. Everywhere among the trees are symbols that look like both stars and cogwheels. Once the user clicks through to the archive, the files can be accessed in a number of different ways, either by date of upload or media format (jpg/png; mp4; mp3/ogg; pdf). These files can also be grouped according to which mucua carried out the upload,

each of which is represented by an icon resembling a fruit of the baobab tree (see Figure 1). However, while the aesthetics of the interface highlight the permanence of the archive through an association with physical territory, its functionality emphasizes its precarity. The two main characteristics of this functionality are that it is collaborative and ongoing. Any mucua can upload content at any stage and it will be included alongside other content without the mediation of popularity algorithms. The thematic grouping that takes place in the archive is haphazard, dictated by the point in time at which the content was uploaded. Furthermore, rather than a static and authoritative representation of the collective memory of the communities, the Baobáxia archive is in a perpetual state of reconstruction. In this respect, it displays what Gabriela Nouzeilles identifies as the “paradox” that is at the heart of all archives, which are “simultaneously defined as inert, rational repertoire[s] of historical artifacts ruled by a totalizing system of knowledge and power, and as active, porous, senseless machine[s], always on the verge of collapse, disrupted by contradiction and irrelevance” (40). Online archives render this paradox more acute since, as Astrid Erll points out, digital media “imply movement on the very level of their underlying technology” because “what we call a computer’s ‘memory’ is in fact the result of ongoing algorithmic processes” (13).

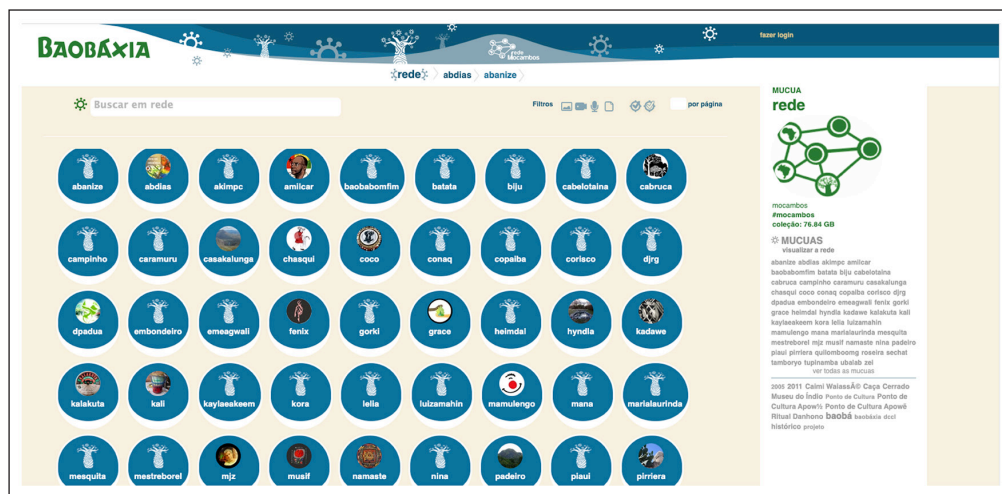


Figure 1 Visualization of “mucuas” in the Baobáxia network.

The tension between permanence and precarity in the Baobáxia project is mirrored by a tension between a desire to lend greater visibility to the communities it serves and its use of a tactic of strategic invisibility. During the first decade of the digital inclusion projects in Brazil, the issue of visibility was a key concern. This was particularly the case for Indigenous community organizations, who used the internet to, in Chris Bueno’s words, “denunciar crimes ambientais, preservar e divulgar sua cultura, defender seus direitos, [e] mostrar suas condições de vida” [denounce environmental crimes, preserve and disseminate their culture, defend their rights and display the conditions in which they live] (14). One of the best-known digital projects to include Indigenous communities is Índios Online, developed by the non-profit organization Thydêwá, based in Bahia. Designed as “uma rede de diálogo intercultural” [network for intercultural dialogue] among various communities including the Tupinambá of Bahia and the Tumbalalá of Pernambuco, the project was recognized as a Ponto de Cultura and received federal funding through the Cultura Viva project in 2005. Before the rise of social media platforms and the increased use of mobile phones to connect to the internet “decentred” (Pitman 27) community websites such as Índios Online, they were seen as a way to “give voice” (11) to communities and provide pathways to greater recognition by the State.

The cultural goal of seeking greater visibility for marginalized communities in Brazil was always fraught with ethical dilemmas, since increased visibility often leads to greater State scrutiny and control. But by 2014, when Baobáxia was founded, using digital media as a vehicle for increased cultural visibility, like the goal of inclusion, was becoming increasingly fraught with challenges. Having a presence on the internet meant being subjected to the codes of visibility employed by social media platforms. Achieving visibility online meant making oneself or one’s community recognizable and legible in the language of the dominant systems of platform capitalism. By the 2020s, the goal of “recognition” by dominant digital networks was particularly problematic for communities of colour such as those served by the Baobáxia network. The potential for facial recognition technologies to be fraught with racial biases has been well documented. Joy

Buolamwini and Timnit Gebru, for example, demonstrate how facial recognition algorithms “trained with biased data have resulted in algorithmic discrimination” (1). Silva points out that the fact that facial recognition technologies are often vehicles for algorithmic racism is particularly evident in Brazil due to the country’s enthusiastic take-up of biometric security systems and their tendency to reinforce historic racism within the criminal justice system. By November 2019, Tarcizio Silva points out, 90.5% of prisoners caught by facial recognition technologies were Black.

The Baobáxia network evidences a tension around the goal of visibility that echoes this trajectory. On the one hand, Baobáxia is part of the broader cultural agenda of the Casa de Cultura Tainã, which is invested in campaigning for greater prominence for Afro-Brazilian cultures within Brazilian society. Alongside this desire for increased prominence, as TC Silva points out, the Casa de Cultura Tainã also supports the struggle for the recognition of rural quilombo communities as rightful owners of their territories (in the wake of [Article 68](#)). Baobáxia is part of a wider network of websites and profile pages developed by the Casa de Cultura Tainã, which includes “TV Mocambos” and “Rádio Mocambos”, which function as vehicles for advertising and disseminating cultural events held by rural quilombo communities. The network is an online performance of the evolving cultural identities of the communities it connects. However, while other elements of “Rede Mocambos” are more explicitly public-facing, Baobáxia is less concerned with providing an interface between quilombo communities and a national or transnational audience. In fact, although baobaxia.net is locatable through Big Tech search engines and is linked to the other websites of the Casa de Cultura Tainã Network, it is very much a separate space and obeys a different logic. The fact that the archive has no filtering algorithms and no mechanism for leaving comments means that it does not obey the same system of visibility as commercial platforms. My experience as a researcher is that the user really needs to know what they are looking for in order to find it. Video files of talks given by community leaders are housed alongside photographs of tree planting.

This separateness from the “infra-estrutura normalmente oferecida pelas grandes corporações” [infrastructure normally provided by big corporations], and therefore invisibility from the perspective of the dominant visualities of digital capitalism, is central to Tozzi’s definition of a “território digital”. This staging of online invisibility by Baobáxia also constitutes an intervention into the territorial logic implicit within the processes of applying for official legal “recognition” as a quilombo. Leite argues that this process “is complicit in reducing the meaning of quilombos to land and, hence, to a potential commodity with a value within the current capitalist system” (“Brazilian” 1231). Therefore, communities wishing to take advantage of the opening afforded by Article 68 must strike a balance between engaging with the language of “territory as land” in order to complete the legal process while protecting the territory itself from being reduced to its commodity value. This is a conflict between what Sebastián Lehuedé, writing about divergences between the conceptions of territory among Indigenous communities in Chile and those implicit within the expansion of data infrastructures in the region, describes as “different ontologies of territory” (3). The ontologies of territory produced through the collective modes of occupying territories carried out by quilombo communities are invisible from the point of view of the capitalist ontologies of land ownership supported by the State. As a “território digital”, Baobáxia reproduces this invisibility in the digital realm.

SPECULATIVE DIGITAL TERRITORIES

Baobáxia is a speculative technological system. A speculative temporality is inscribed into the infrastructure through the concept of a “rede federada eventualmente conectada” [federated network connected asynchronously]. For Baobáxia, connection is not continuously available in the present but is something that might happen in the future. Uploading a file to a mucua expresses a faith in the “eventual” arrival of this future connectivity. The futurity of this connectivity breaks with the imperative of constant connection that undergirds digital capitalism. As Sean Cubitt reminds us, since the capitalization of the World Wide Web, connection to the internet has become “one of the most intense sites of consumer discipline [which] shapes all interactions as commodities” (4). In this context in which constant connectivity has become an obligation, “[n]etworks of identity and lifestyle, peers and professions, trade partners and fandom overwrite social connections of locality. Connection is also disconnection” (Cubitt 2).

So, Baobáxia's futurity displaces the need for instant connection to "networks of identity and lifestyle" and makes space for connection with locale.

The speculative nature of Baobáxia's network infrastructure also complicates the temporality of its functionality as an archive. The coherence and completion of the archive is perpetually deferred to a future moment of connectivity when information stored in individual mucuas, which are often assembled offline, is linked to the wider network. In a sense, this temporality echoes that of archives in the context of pervasive datafication. [Nanna Thylstrup et al.](#) argue that "[i]n this era of big data [...] the notion of the archive moves from a regime of knowledge about the past to a regime of future anticipation". The constantly updated archives of data accrued around the activities of internet users are constructed, not to build a faithful record of events for future historians, but rather to inform advertising and the information that is made visible to users, which will shape future behaviour. However, the futurity of Baobáxia's archives is deployed to different ends. Rather than shape the lifestyles of its users, the speculative nature of Baobáxia resides in its attempt to imagine and actively perform a mode of community-owned and community-developed technological infrastructure that occupies the fissures of the digital capitalist system. In this sense, Baobáxia belongs to the tradition of "gambiarra", a term that was frequently employed by media activists in Brazil to describe critical appropriations of emerging technologies in the service of political struggles. For example, MetaReciclagem, which ran workshops on reusing and recycling "obsolete" hardware, used the term to describe its philosophy of creative technological appropriation. José Messias and Ivan Musa describe gambiarra as a decolonial epistemology that emerges from conditions of social precarity and economic necessity: "uma cognição canibal que mobiliza uma especulação inventiva" [a cannibal cognition that mobilizes a speculative inventiveness] (181). The act of appropriating technology, whether it be an artefact, system or process, entails a vision of an alternative socio-technological configuration in the future. Baobáxia appropriates existing systems for the storage and networking of information to perform the digital future of quilombo communities.

Due to its speculative logic, Baobáxia shares much in common with Afrofuturism. Afrofuturist aesthetics and narratives rose to prominence in Brazil alongside Black activist movements such as *Vidas Negras Importam*. Although it had several precursors, from 1960s *Tropicália* to Recife's *Mangue Bit* movement of the 1990s, the height of Afrofuturism in Brazil coincided with the current phase of digital capitalism. Elsewhere, I have pointed out how Afrofuturism has been frequently deployed in Brazil to both render visible and challenge the ways in which racial biases are embedded within the software systems that increasingly mediate social life, from search engines to facial recognition technology ([King](#)). Artists such as *Vitória Cribb* and *Sáskia* employ Afrofuturist aesthetics to expose algorithmic racism. Although these artists do propose alternative configurations of racialization and socio-technological systems, they do so at the level of the reception of existing software. For example, diverging from the history of racial bias embedded in the facial recognition systems used by face-filtering apps, Cribb develops Snapchat "lenses" for Black faces – in particular the faces of the Black virtual models she develops using 3D rendering techniques. However, she does so by employing the commercial face-filtering software that is Snapchat's default option for lens developers. By contrast, Baobáxia confronts the problem of the lack of digital equivalents of quilombos by constructing an alternative digital infrastructure.

In many ways, the Baobáxia project echoes, in the realm of software development, the decolonial spirit of much contemporary science fiction production in Brazil.⁶ In particular, Baobáxia enacts a vision developed in a number of recent works of science fiction that have reimagined the quilombo for the digital age. Azucena Castro argues that the 2018 graphic novel *Cangaço Overdrive*, by Zé Wellington, and the 2019 film *Bacurau*, directed by Kleber Mendonça Filho and Juliano Dornelles, construct fictionalized versions of "quilombo-like communities" to "reflect on possible futures amidst pressing socio-environmental challenges" such as the increasing scarcity of water in the dry North-East (1–2). In their attempt to imagine intersections between autonomous quilombo territories and digital networks, both works illuminate Baobáxia's contribution to the development of speculative Black digital territories. *Cangaço Overdrive* shares Baobáxia's looping temporality, which recuperates narratives of

6 For an overview of decolonial strategies in the various sub-genres developed in Brazil to appropriate the conventions of cyberpunk in order to address both local and transnational political struggles, see [Zuin](#).

resistance from the past to project alternative appropriations of emergent technologies into the future. The book fuses cyberpunk fiction with elements of folkloric “cordel” literature, a genre characterized by its mythologization of outlaws of the North-East known as *cangaços* and its publication in cheap chapbooks decorated with woodblock prints. The plot of *Cangaço Overdrive*, which is narrated in the style of cordel, takes place in the near future and focuses on a battle between a nineteenth-century *cangaceiro* bandit who has been reanimated to defend an autonomous urban community from encroachments by the State, and his erstwhile enemy, a murderous chief of police, brought back to defeat him. Both the structure of the graphic novel and its narrative turn to the past to confront challenges of both genre (splicing cyberpunk with cordel folk tales) and technology (how to maintain territorial autonomy amid increasing interpenetration of physical and virtual space). Although *Cangaço Overdrive* has been associated with the sub-genre of “sertãopunk”, it shares this temporal structure with Afrofuturism. It is this looping connection between the retrospective and the proleptic, which Eshun (298) argues is constitutive of the “chronopolitical act” of Afrofuturism, that is shared by *Cangaço Overdrive* and Baobáxia in their construction of autonomous Black digital territories.

Bacurau, meanwhile, stages the tactic of strategic digital invisibility employed by Baobáxia’s autonomous infrastructure. The plot of the film, also set in the near future (“daqui a alguns anos”, according to a title card), focuses on the struggle of a rural quilombo community to survive amid threats from a group of hunters from Europe and North America who are trying to kill them for sport. This struggle is set against the backdrop of an ongoing attempt to maintain autonomy against efforts by local State representatives to incorporate the community into a national territory. While the plot repeats elements of mythic tales about *cangaçeiros* of the North-East (and directly references these stories at several points), it more loosely evokes the war in Canudos that took place in 1896–97 between federal troops and a rural millenarian community asserting its independence. The war was framed in Euclides da Cunha’s foundational work of journalistic literature *Os Sertões* (1902) as a conflict that exposed the violence of national foundations at a time when Brazil was transitioning from Empire to Republic. By resituating this struggle within a near-future science fiction film, *Bacurau* draws a parallel between the violence of the foundation of the Republic of Brazil (in its crushing of alternative epistemologies and ontologies) and the increasing social dominance of digital capitalism. The latter is evoked in several ways. When a local politician visits the town attempting to win their votes for an upcoming election, he tries to record them with a retinal scanner device. The hunters, meanwhile, are aided by a high-tech system that, with the help of drones and communication-blocking devices, turns the hunt into a form of augmented reality game. It takes to an absurd extreme the gamification of social life under digital capitalism in a way that was echoed by the Korean Netflix series *Squid Game* (2021).⁷

The campaign of resistance carried out by the inhabitants of *Bacurau* combines *cangaçeiro*-style violence with the strategic invisibility associated with the quilombo. Before the arrival of the hunters, the town’s primary school teacher attempts to locate Bacurau, which is the name of the community, on a digital map using a touchscreen device. When he can’t find it, he takes the students into the classroom to look on the desktop. But even when he switches into satellite mode and zooms into the appropriate area of the Serra Verde mountains, the town is nowhere to be found. One of the children asks, “a gente não paga para entrar na mapa, não?” [Sir, don’t we pay to be on the map?]. At which point, in desperation, the teacher takes out a hand-drawn map of Bacurau, complete with outlines of individual buildings. Later, to complete this image of digital invisibility, a mobile signal black spot descends over the town, rendering all wireless communication impossible. This digital invisibility is treated ambivalently in the film. On the one hand, it emerges that this invisibility has been, at least partly, imposed by the hunters. During a meeting held before carrying out their final attack, they reveal that they have erased all digital traces of the town as a virtual prelude to the planned annihilation. The child in the classroom was closer to the truth than the teacher acknowledged: the financial centres represented by the hunters can both give (an extremely circumscribed) visibility to others and take it away. However, while it is partly imposed on them, the townspeople of Bacurau use this invisibility as a strategy of resistance. Their refusal of biometric registration leaves them outside of the State, free from its laws and able to develop alternative educational systems and spiritual traditions (mainly involving hallucinogenic seeds). In a way that foreshadows this dynamic in the film, the

7 For an explanation of the role of “gamification” in the digital economy, see Rey.

CONCLUSION

As outlined in the introduction, Rolnik argued that urban “territórios negros” of the twentieth century produced the conditions for “um devir negro” [a Black becoming] from which “pode nascer uma força disruptora sem limite” [there emerges an unlimited disruptive force]. It is clear that Baobáxia, as an experiment in constructing a Black digital territoriality, constitutes a threat to both the Brazilian State and digital capitalism. Since the 2018 presidential election in Brazil, in which the role of social media in building the far-right candidate Jair Bolsonaro’s powerbase has been well documented, the role of Big Tech platforms in supporting the interests of the State has become increasingly clear. In this context, “digital inclusion” as a goal that would support social inclusion and address social inequalities has lost its allure. Baobáxia retains part of the agenda of digital inclusion projects of the 2000s and 2010s by connecting rural communities through its archive and communication network. However, it does so through an autonomous network that sidesteps reliance on dominant media platforms while avoiding their logics of monetization and perpetual connectivity. Baobáxia carves out a space of “invisibility” from these logics, and this is a space, not so much of disruption (since it can be easily ignored from places of power), but rather of potentiality and the possibility of alternatives.

It is in the evocation of these possible alternative socio-technological systems that Baobáxia’s use of a speculative aesthetic and technical logic is important. Through its creation of an autonomous network that does not rely on commercial infrastructure, Baobáxia is an example of the third solution outlined by Holston and Ochigame. However, its technical instantiation of a speculative aesthetic (through the concept of the “rede federada eventualmente conectada”) emphasizes an element left out of their account: namely, the role of social imaginaries in constructing viable alternative communication and storage systems. Baobáxia attempts to harness speculative aesthetics circulating in mass culture to construct a space for itself within the social imaginary of its communities of users as a space of resistance. The mode of socio-technological “speculation” that it carries out constitutes an alternative to what Sun-ha Hong describes as “technologies of speculation” in the use of big data to predict and therefore control future behaviour. While these technologies of speculation foreclose the existence of a future that might be different from the present, Baobáxia takes a step towards placing control of the future in the hands of communities and therefore reinstating the possibility of alternative futures.

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TO CITE THIS ARTICLE:

King, Edward 2023 Speculative Black Digital Territories in Brazil. *Modern Languages Open*, 2023(1): 40 pp. 1–15. DOI: <https://doi.org/10.3828/ml.o.v0i0.447>

Published: 18 December 2023

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