

RESEARCH ARTICLE

The Earth Is Sweet. On Cottica Ndyuka (De) compositions

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Abstract

How can we remain attentive to the scale of the environmental damage caused in traditional Maroon territories by the effects of the Plantationocene and the material vestiges of colonial and racial violence left by capitalism? Dwelling on conversations held with Maroon Cottica Ndyuka women living in Moengo, a small town established on the Cottica River in Eastern Suriname to support a bauxite industrial plant in the early twentieth century, this text seeks to illuminate what Maria Puig de la Bellacasa (2021) calls “elemental affinities,” relationships in which humans and more-than-humans interact in composing body and earth through refractive and diffractive effects. The paper observes how the women mixed and modeled clay, turning it into sculpted balls known as *pemba* or *pemba doti*, frequently used as a therapeutical and spiritual substance, and as food. In so doing, the text deals with processes such as creating, composing, undoing, decomposing, and perishing once the earth—as soil—takes part in and renders possible the existence of diverse creatures. This is a contribution toward an ethnography of (de)compositions of the earth that sets out from the affinities between earth and bodies, attentive to certain metamorphic possibilities, the multiplicities of relations in which soils act.

Keywords: Maroon; earth; Plantationocene; Suriname; women; Cottica Ndyuka; soil; geophagia; bauxite mining; French Guiana

The camera pans across a scene showing an exuberant forest. It stops at a border region separating the shade of the trees from dry land: a crater of reddish earth, excavations, dry soil, and machines. From this space, Businengee—Maroon descendants of enslaved Africans and Creoles who escaped and created societies in the rainforests of Suriname and French Guiana—observe the wounds in the womb of *Goontapu*, the “earth-sky” in the Okanisi language, profaned to multiple depths. These are the places where they perform ways of existing alongside other beings of the forest worlds, shown in the frames of the film *Stones Have Laws (Dee Sitonu a Weti)* (2018). When the film was screened in a Maroon village in Suriname, one of the directors, the Cottica Ndyuka Tolin Alexander, remarked how painful it was for his people to watch the destruction of places where their ancestors once had dwelled. Their kinfolk still work in the mining industry. He observed, “Seeing

themselves mining the earth to look for gold made the community reflect: Are we on the right path?"¹

Acknowledgment of the dangers that threaten the land and Maroon lives is also an embodied and sensory experience, expressed in multiple ways of "grounding in the soil" (DeLoughrey 2019: 44). It must be seen, felt, heard, and tasted. The Businengee audience's reaction foregrounds different ways of locating the consequences of the destruction of the forest and, along with it, the knowledge gained by their ancestors. The mention of the path taken evokes a recognition of the relations and exchanges made with the gods and other non-human beings, transformed into a set of values and rules pursued in the Maroon socialities. Walking and moving through the forest, stepping on the ground, crossing rivers, and removing obstacles with one's hands involve skills, knowledge, specific language, and listening. The encounters of Maroon bodies with the land involve different ways of becoming free with other beings, composing and decomposing relationships in the process.

This article explores some ways of composing with the earth articulated with the Plantationocene, a concept created as an alternative analytical frame and device that allow us to connect the effects and debates surrounding the Anthropocene to the historicities of the colonial and racial plantation regimes locally. My analyses are based on conversations with Cottica Ndyuka women living in Moengo, Eastern Suriname, conducted while I accompanied them in their houses and yards and noticed the arrival of bags of soil coming from landscapes similar to those shown in the documentary. I observed transformative contexts in which the women mixed and modeled the clay, turning it into sculpted balls known as *pemba* or *pemba doti*. In addition to its use as a therapeutic and spiritual substance, the *pemba* was commonly ingested by pregnant women as a "sweet" delicacy. But because the reference to this pleasure of tasting the land was not a public expression but a target of condemnation and sanction, I began to speculate about other connections that made not *pemba*, but the clay itself into a non-Maroon artifact of knowledge.

When the clay was analyzed for pathogens, medical institutions, physicians, and bio-scientists in French Guiana identified high doses of mercury, aluminum, and organic and geological material in the bodies and blood of the Maroon women and their newborn children. A combination of analyzed substances revealed the clay to be a synthesis, the elements composing it mediated by diverse technologies and scientific concepts. The soil eaten was disclosed as a spectrum of re-combinations, an entanglement of geological substances, humans, and other microorganisms. *Pemba* thus emerged as a matter that created unwelcome relationships insofar as, in the modern sciences, "eating earth" is assigned a pathological term: geophagy. In this way, the *pemba* consumed by the "earth-eaters" appears as the outcome of an undesirable soil-human relationship in which the earth is seen as "dead matter" (Wynter 2003: 267; Yusoff 2018: 211). Geophagy would thus describe a practice of women in racialized bodies and "Bushinengee culture" in the legally precarious territories composed by the colonial enclaves of the Plantationocene (Jolivet and Vernon 2007; Vernon 2018; Grotti 2017; Légise, Léobal, and Migge 2020).

¹Businengee is the appellation by which Maroon peoples in Suriname and French Guiana recognize themselves vis-à-vis non-Maroons (Campbell and Alexander 2023). The English subtitles cited are taken from *Artists' Introduction Stones Have Laws*: <https://vimeo.com/351884282>.

Yet, for the Ndyuka women I met, the consumption of *pemba* entails a different kind of transformative process. Instead of synthesis, it enables the making of each person as a symbiotic combination of human and other-than-human bodies and the earth. Eating earth satisfies the desire to “heal” and “take care” of oneself or another being fabricated through processes of transference and transformation that mobilize diverse ways of living. Saying that the clay is sweet entangles places, situations, and words as sensory expressions of “bodily pleasures,” as discussed by Annemarie Mol (2014: 105). Not only does it translate the words through which humans act in entangled relations, but it also expresses other ways of existing *as* earth, body, power, and force. Sweetness and pleasure are thus experienced and spoken in the “language of the world,” in which, “The Earth speaks to us in terms of forces, ties, and interactions” (Serres, quoted in Latour 2020: 114). *Pemba*-eating and caring for oneself and for other beings are acts that diffract relations and multiply knowledge about the consequences, unexpected and dangerous, of a bad encounter or approximation, leading to diverse ways of (de)composing with the earth.

To comprehend the earth that these women eat, we need a different conceptualization of their bodies and the ingested earth—one attentive to the implications of the agency of the *pemba*—that does not see them simply as endless refractions in which substances and their properties always return to the earth. Instead, the earth produces differences each time that expressions of pleasure and care result from diffractions. By rearticulating Businengee bodies and the earth, this article illuminates what Maria Puig de la Bellacasa (2021) calls “elemental affinities,” relationships in which humans and other-than-humans interact in composing body and earth through refractive and diffractive effects. The paper is thus an ethnography of the (de)compositions of the earth attentive to certain metamorphic possibilities, the multiplicities of relations within which soils act and, especially, are formed as a “powerful elemental,” either as a “gift of life” (Stengers 2021: 27), or as a “resource,” or as geochemical evidence. The text deals with processes such as creating, composing, undoing, decomposing, and perishing once the earth—as soil—takes part in the “politics of life” (Lyons 2020) and renders possible the existence of diverse creatures. Humans and other-than-humans do not act only as biogeological and generative elements. Like humus, they activate the transformative cycles through which they interact as elementals, composing and recomposing bodies and earth through metamorphic relations. Following the provocation of Stengers to “reactivate the elements” (2021: 27), I will focus on the actions that make the soil share practices and metaphors of both creation and destruction. But rather than considering their “meanings” as part of Maroon knowledge or a Maroon language, culture, or cosmology, I track the path of words, translations, and conceptual approximations, considering the work *pemba* does in movements of refraction and diffraction. The notion of refraction, as employed by Diane Vernon (1992) and through which I explored the *pemba* compositions in the first section, emphasizes the meanings and analogies mobilized during encounters, the exchanges with soil and the earth that create a universe of intersections, vibrations, and movements.

Placing Bodies

“Where does *pemba* come from? From some place in particular?” I asked, and Georgine replied: “You can find *pemba* everywhere, just as you can find bauxite

and gold everywhere. *Pemba* is kaolin.” Clay for making *pemba* has always been abundant on the slopes and shores of the Cottica River and its tributaries, and her Cottica Ndyuka kin never needed to search far to obtain it.² Georgine’s family history combines, on one side, the memories of the elders raised in ancient villages and, on the other, the tribulations of recent generations of Maroon people who worked on the outskirts of the area’s bauxite plant and fled to refugee camps during the war. The elders know the names of the ancestors who opened clearings in the forest and left planted fields for their *bée sama* (matrilineal kingroups) in protected and sacred areas, places where Georgine still goes often. Her parents and grandparents were born as Cottica Ndyuka in villages affected by mining industries, governmental projects, and intense Christian missionary activities. The bauxite mining industry’s rise and downfall in the Cottica region, its debris landscapes partially produced as the effects of war, form part of the younger generations’ memories. Georgine’s father worked for a crew of bauxite prospectors in the forest, opening drill holes near the riverbanks. Like other Maroon women, her mother, Sa Mari, works a plot of land, a *goon* (from the Dutch word *kostgrond*), inherited by her *bée*. She belongs to *Pinasi-ló*, one of the bands (*ló*) of runaways and their Ndyuka descendants distributed in different *bée* and affiliated to different forest gods and spirits. She was born in Ajuma, one of the oldest Maroon settlements in the area surrounding the Coermotibo and Wane rivers.

The Cottica Ndyuka, as the first migrants were called, left the interior of the Dutch colony and the official territory of their ancestors in the upper Tapanahoni River—whose autonomy had been recognized via a peace treaty signed with the colonial authorities in 1760—and began to settle in the coastal area before the official end of slavery in 1863. Men left their villages and crossed borders in search of work and access to tools, fabrics, and other goods in frontier areas dominated by plantations, enslaved workers, and colonial resource exploration and extraction. The colonial administration prohibited Ndyuka from dwelling in the Cottica region, mainly because their settlements could serve as refuges for new runaways, but migrant villages were established along the rivers, near the plantation and the enslaved African and Creole populations. Cottica villages became much more exposed to contract labor dynamics with the arrival of missionaries and Catholic and Moravian schools near indigenous and Maroon villages, the regular work offered in producing and extracting wood, the search for gold in the Dutch and French colonies (Heemskerk 2001), and the extraction of *balatá*. These dynamics included contact with mining companies’ representatives, who arrived in the coastal area at the beginning of the twentieth century, with whom Maroons had to negotiate spaces where they could stay, work, and find ways to support themselves (Köbben 1968).

Two other interventions have directly and deeply transformed Maroon people’s lives in the Cottica region. The first was the start of bauxite exploration in 1916 after the installation of a plant run by the U.S. company ALCOA (later transformed into SURALCO) in Moengo, where an old Maroon village existed. The second was the outbreak of the War of the Interior (1986–1992), which mainly involved young Cottica Ndyuka fighting against the Surinamese Army in the Marowijne District. During the fighting bauxite production ceased and the company’s Moengo facilities

²My first interaction with Georgine, a middle-aged Cottica Maroon woman, took place in 2009 when I carried out the first of various fieldwork trips to Moengo. To protect my interlocutors whose lives are intertwined with the events of war and the wait for unfulfilled promises of reparations, I’ve used fictitious names here.

closed. The army invaded villages and six thousand refugees fled to French Guiana, where they were concentrated in “refugee camps.” Following a 1992 ceasefire and compensation payments from the French government, some families began leaving the camps to return to Suriname.³ Although the Surinamese government had promised to shelter the returnees in new dwellings, Cottica Ndyuka also began to occupy abandoned houses and the company’s buildings in Moengo. The war, and also economic development, destroyed earth, forests, rivers, and Maroon and Amerindian territories in the Cottica region (Cunha 2018; Connell 2020). As a report by the Inter-American Commission of Human Rights concluded, “One of the consequences of the construction of the highway to extract bauxite was the implementation of legal and illegal logging activities, poaching, and the mining of sand, gravel and kaolin” (IACHR 2015: 26–27).

Since 1958 Ajuma has been slowly collapsing due to continuous detonations and damages caused by the mining industry, led by the bauxite exploitation in neighboring areas. In the vicinity, kaolin exposed in craters is visible as chemical residue. From these depleted and abandoned mines, Cottica Ndyuka men gather the *doti*, which is then carried to the yards of women like Sa Mari on the outskirts of Moengo. The manufacture of *pemba* thus continues through transformative processes encompassing many uses, hands, objects, and places. When the kaolin arrives as *pemba* in the markets where the Maroon also sell their foodstuff, fabrics, and herbs, it is much more than a geological aggregate. The *pemba* balls that Sa Mari makes are the product of an extraction from an extraction; they are consummated after the actions of the capitalist mining industry in a territory saturated by the visible and invisible presence of the plantation. Georgine named the clay as kaolin, remarking that people live off of extracting *pemba*. Sa Mari makes a living and gathers the resources to buy what she needs; her work with clay is not detached from the local extractive capitalist structures. As the excavation of clay does make visible a resource that the hands of miners and prospectors and the gears of the geocapitalism disclose, making *pemba* dismantles a composition made through human and other-than-human participation.

As Achille Mbembe pointed out: “To remember is literally to see the physical traces left upon a *place’s body* by the events of the past. However, no *place’s body* is completely unconnected to the human body. Life itself must be ‘embodied’ in order to be recognized as reality” (2010: 39, his emphases). The relationships between the first runaways (*lowémen*) and the earth and other-than-human beings encountered along their flight paths created the worlds in which the Businengee now live. Fleeing from the slave plantation, the feral-like *lowémen* were welcomed and domesticated on the forest trails by spirits, gods, and animals in exchange for the humans nurturing and protecting them. Thus, the risks of a landless future seem to threaten the spacetimes of the past: the marks of the invention of existential territories and ontological self-determination won by war, with blood, and with the gods. When faced with images of the destruction caused by mining and war, the path toward freedom traverses different spaces and times. While these scenarios seemed to replicate some of the past experiences associated with the plantations where their forebears were subjected to enslavement and from which they escaped—as well as the gaps created by the

³On the Cottica Ndyuka and the war and the refugee camps, see van Velzen and Polimé (1988); and Price and Price (2022).

Plantationocene machines—they also diffract various fears: of the mining industry in traditional Maroon and Amerindian territories, the pollution of rivers and crop areas, and the precarious lives of undocumented refugees arriving in Guianese cities.

The Earth: Neither Resource nor Predation

Was my question to Georgine a mistake if I assumed *pemba* was extracted from a sacred repository, a holy place from which its spiritual forces would emanate? The protected sites to which the Maroons migrated can be understood as repositories of geological fragments and ontological creation. By treating sand as transgressive matter—situated somewhere between the sea and a malleable soil, its consistency averse to producing traces—Agard-Jones (2012: 326) juxtaposes geological temporality and people's histories at the sites.⁴ The externalization of kaolin under and on the surface of the ground and in craters, later turned into *pemba*, captures analogous activations. My mistake was to break off and interrupt the *meki pemba* as a continuous flow that connects bodies and earth by situating the kaolin in specific places and times. As soil, *doti* comprises the matter resulting from the encounters with worlds known to the *lowémen* who escaped from the *katibo*—the name from a time when the land and enslaved bodies were nothing but resources, raw materials for capitalist production.

The machines ruining the earth and spoiling *Goontapu* allowed the *Stones Have Laws* audience to recall the worlds continually revealed by the suffering and sagacity of their ancestors.⁵ In both epochs, sociotechnical gears have been applied toward the same goal: to draw from the earth, the human bodies, the crops, the waters, and the winds the resources needed to produce energy and generate wealth. Donna Haraway (2015), Anna Tsing, and others (Haraway and Tsing 2019; Tsing, Mathews, and Bubandt 2019; Murphy and Schroering 2019) have rightly articulated the plantation and the Plantationocene, identifying the logic that maintains the extraction of the vital work of humans and other species through acts of reduction, discipline, alienation, and slavery—the multi-species biopolitics expanded by forms of racial capitalism. Among its diverse ways of operating, it is based on regimes of racialized labor and production-oriented spaces, modalities of coercive and indentured work, both human and animal, and the occupation of territories following the extermination of indigenous peoples. The plantation depends on the transportation of plants and biospecies subjected to the regimes of “ecological simplification” (Tsing, Mathews, and Bubandt 2019: S189) needed to implement agricultural monocropping; the reinvention of the “human” and other social and spatial hierarchies of control and domestication; and the creation of entities, categories, classifications, and concepts to establish discrete separations. Between the enclaves, the extraction zones and the agrarian and industrial landscapes that comprise the bases of capitalist extractivism (Cadena and Blaser 2018: 3), the plantation emerges as a historical regime that captures the “forces of nature” and renders into intensive and extensive configurations the subjection of beings that make up the earth in the Anthropocene under the “New Climate Regime” (Latour

⁴For another poetic image of the soil as an archive of Black experience related to violence and the plantation, see Sharpe (2016).

⁵See MacKay 2002; Kambel (2007); and Price (2011).

2020: 105; Bubandt 2019: 4). The Plantationocene is what is extracted and made visible, expanding at scales unknown to the plantation era, anticipating the end of worlds created from the “proliferation of ferals” (Tsing, Mathews, and Bubandt 2019: S189).

Both the plantation and the Plantationocene are just concepts able to reconstruct the machines and the racial capitalism (Vergés 2017) that simultaneously destroy the earth. They escape frameworks centered on modern historicities and chronologies since, among the Maroons, the plantation is less of a place: its relationship to the contemporary machines of extraction is not temporal. Both terms name “virtualities.” The reference to the path, for example, alludes to an ethics of “living-well” (*libi makandi*) as an antidote to sorcery, the danger of fissions, the separation of the living from the earth, and the capitalist machine-driven destruction of *Goontapu*. The past trek from the plantations to the forest as a space for creating socialities remains virtual, I would suggest, because it still illuminates and gives meaning to the present. It is what was and continues to be made as life, becoming, and duration; it is what is at stake. Likewise, in the projection of a Maroon past, the plantation only exists as a parallel world to the present, a “reserve of sense” and “ontological memory” of the earth acting “as if” it is a resource. The Plantationocene, in turn, re-enacts the past as a different kind of virtuality in which memory is provoked by the reduction of life and the vital work that creates its conditions of possibilities. Just as the Anthropocene is not an epoch but a “frontier,” so the Plantationocene is not the exhaustion of the plantation machine but its repetition on hitherto unknown scales. Relations between living beings and the land that they (re)articulate evince ways of animating and inanimate ways of acting and living (Latour 2020).

A conceptual approximation of two related Okanisi terms, *paandasi* (plantation, farm)⁶ and *katibo* (bondage, submission), expresses the conditions under which certain beings—for example, humans and geological residues that are labeled as inert or decomposing—become the objects of forms of capture by other beings. The plantation and the Plantationocene establish the logics of soil extraction, predation, and consumption of earth-bodies; their first inscriptions as model and practice are implicated in definitions of the Human (and its conceptual correspondents such as reason, free will, and freedom) and the limits of dehumanization. What brings them together is neither events nor analogies but the fact that they actualize models of just one kind of relationship between the living. Terms such as “enslaved,” “runaways,” and “bush negroes” indicate different scales of ties to the land associated with varied forms of spatial control. Their enunciation affirms the impossible condition of “humanity,” which justifies possession, capture, and consumption. As Viveiros de Castro notes, rather than identity or substance, “‘Human’ is a term that designates a relationship ... derived in relation to the primary positions of predator and prey,” where “humanity” emerges as “the reflexive mode of the collective” (2015: 57–58, and note 19). The category “Human” is thus a result of the conditions created by the *paandasi* and the *katibo*, a counterpart to the objectification that guarantees the extraction on which the plantation depends as a particular structure of relations: the objectification that founded the enslaved—beings under moral domination, homologous to the subjected, captives reduced to possessed objects and thus the unnamable. In Sylvia Wynter’s words, humanity is

⁶However, among the Ndyuka, the term *paandasi* also names the territory of the village.

thus constructed from “biocentric codes,” composed of “sociogenic” statements, genders, and kinds of “human beings” (2015: 117–18). “Natives”—the enslaved, indigenous people and the colonized—exemplify radical alterities, others to the Humans, because of their relationships to (un)domesticated places, to the land, to soil, and to the work on which their lives depend (McKittrick 2006: 130). Predation as a relational model enhances notions about the powers that operate both enslavement and sorcery, conditions that Maroon socialities postulate as radical distance and opposition. Slavery and sorcery both presuppose the depersonalization and “disempowerment” of one of the poles of any given relation, turning it into a resource; they are equivalents insofar as both involve alienating the capacity to create life in new and manifold relations and retain ownership of it. Being someone’s captive and being tied to the land can be deemed synonymous, therefore, since both conditions imply a reduction from creation to production (Palmié 2006).

Watching the images in *Stones Have Laws*, the Businengee realized that the paths leading them away from the violence of the slave plantations were still being traveled. Their questioning not only refers to their ancestors’ experiences but speculates about the consequences of an endless trek, a form of existence lived between escape routes and intensive ontological co-participations. In the *Fositén* Maroon histories—accounts of the “first-time” of the ancestors, the runaways, and the founders of the Ndyuka people (Price 1983; Thoden van Velzen 1995; Thoden van Velzen and Wetering 2004)—the escape into the bush ignores fixed points; instead, it becomes entangled in spiraling encounters with other beings. The *lowéman* body embodies diverse relationships *as* and *on* the earth, by conjuring socialities and exchanges between revealed and known beings along the way. Such crossings ignore what Latour called forms of “reduction” and “simplification,” which unequally distribute “animate” and “inanimate” beings “by overanimating certain others, called human, by crediting them with admirable capacities for action—freedom, consciousness, reflexivity, a moral sense, and so on” (2020: 68). The future that the Maroons’ ancestors envisioned, as well as the freedom that their descendants seek, involve other ways of relating to the land. As Sally and Richard Price observe, this includes the continuity of experiences with “types of labor at which they are expert, and which do not involve automatic alienation, such as forest agriculture” (1989: 205).

Authors such as Sylvia Wynter (1971), Sidney Mintz (1986), Michel-Rolph Trouillot (2002[1998]), Dale Tomich (1991) Katherine McKittrick (2013), Carney (2021), and others have differently explored the plantation as a model of production that is a counterpart of the earth as an existential space, where the politics of life (Lyons 2020) happen, in small-scale and alternative modalities of land ownership, use, and belonging. Repositories of multi-species socialities composed of animals, plants, spirits, gods, and “humans-as-humus” (Haraway 2013: 160; Tsing 2013) are all “open to the multiplicity of existents, on the one hand, and to the multiplicity of the ways they have of existing” (Latour 2020: 35). The small plots of lands, the provisional terrains of the enslaved and their descendants—what Wynter called the “plot system” (1971: 97) on the margins of the plantation—constitute a breakdown in the models for human and environmental exploitation. Since they exist beyond the different scales and limits of the plantation, they open space for other ecologies. Implicated in relationships that escape the separations between “nature” and “culture,” these place-relationships make up a feral ecology, a “reality for the

beings that make a living there” (Ingold 2007: 24). These heterotopic sites create earthly perspectives for the politics of life in places toward which one escapes (“routing”) and into which one is rooted (“rooting”)—sites in which rhizomes move forward, where visible and invisible creatures become intertwined (Crichlow and Northover 2009: 208).

Among the Businengee, a *goon* is a site of encounters, a refuge for humans, animals, plants, and soils, made of trails and the “propagation of myriad creatures” (Haraway 2015: 162 n5). In the *goon*, the earth is not only soil, a grainy substance of varying density and color, nor merely shelter and a “resource” to provide subsistence through monoculture; rather the earth is a place that encompasses socialities moved by exchanges, languages, interspecies intersections, knowledge, and powers of transformation. Its commonality exists as a place shared, inhabited, and animated by various beings. Georgine’s response to my question was to point out that, rather than a being part or a fragment of the soil, by participating in composite relations that bind the person to kin, the *pemba* is *doti* and part of *Goontapu*. More than pure substance, one of the four elements that early chemistry listed to stress its generative principles (Stengers 2021), and less than a metonymy of earth geontologies (Povinelli 2017; Yusoff 2018), *doti* is both the tangible expression of a breakdown or decomposition and a reference to articulations and compositions that are not always visible.

Black Feminist authors such as Sylvia Wynter (1971; 2003), Katherine McKittrick (2013), and Vanessa Agard-Jones (2012), and other explorations in STS and other non-STs feminist praxis (Povinelli 2017; Puig de la Bellacasa 2017; 2021; Yusoff 2018; Lyons 2020; Stengers 2021) around human-soil relations in varied contexts, can help us account for this ubiquitous and metamorphic condition of agency and conceptual creations. Puig de la Bellacasa, for instance, rescues the elemental as a concept from early chemistry and geochemistry in studies of soil composition and mobilizes it to identify the parts and whole that make up the “soil community”—an assemblage that in “microbiopolitics” is called “microbiomes,” the multispecies biotic-abiotic collectives in the biogeochemical relations that constitute the soil as matter. Drawing on Haraway’s (2015) formulations of a “patchy Anthropocene” and its connections to different forms of infra- and non-humanity (Blok and Jensen 2019), Puig de la Bellacasa mobilizes the ontologies of the earth to suggest an eco-poetics in which soils are both “elemental,” as a condition of life for many species, and “inalienable” as “marketable resources” (2021: 215). As part of an ecosystem, the soil comprises ongoing, multiple, intensive cycles and metabolic processes in which different beings articulate interspecific compositional and decompositional movements. These twin ideas of composition and decomposition describe how organisms such as bacteria, fungi, and plants combine and share in creating the soil as a living matter full of nutrients and energy. Simultaneously, they feed from the soil, degrading and metabolizing it. The “soil community” responds not to closed, wholly “organic” or “natural” cycles, but rather to other nonorganic materials, non-native species, technological and chemical interferences, and humans, “exposing connections, overlaps, and multiple temporalities” (2021: 215). Decay is not an unmaking but a relationship in which creatures share food and give away what they no longer need.

Refraction also illuminates the creative and transformative forces that act on, renew, and fertilize the land and the bodies of diverse beings. Through its actions, we can recognize what Latour called “potencies to act” (2020: 119). He invites us to invert

the centrality of signification and pay attention to acts of caring and their consequences. Hence, the descriptions of making and using *pemba* enable us to envisage the processes involved, the things its presence activates, the different temporalities at work, and what *pemba* announces and anticipates. Rather than being the replication of an original and static image, therefore, refraction multiplies potencies. Its modes of animating the earth move toward the consequences of a forbidden act, a forgotten permission, or a careless intervention. Through refraction, *pemba* acts on processes that animate “natures” (Latour 2020: 123). The path of the *pemba* carried by humans from the extraction sites to backyards and marketplaces is distinguished by particular transformations. Instead of undoing “original” or “natural” compositions of the clay/soil, they create articulations between not only substances but also ontologies.

Refractions and (Re)compositions of the Earth: Calming the Skin

My daily conversations with Sa Mari began when she returned from the *goon* with food to share with her kin, who live in the same *kampu* (house yard). The afternoons were usually spent working with the white clay piled up and stored in bags. With the help of her hands, strainers, and sometimes a grinder, she dedicated herself to “*pemba*-making” (*meki pemba*) by pouring water over the white clay. After soaking and molding, the clay was distributed into vessels covered and sheltered from the rain and animals. After some days, when all the moisture had been drained away with a squeezer, Sa Mari placed the remaining cohesive paste of clay and water in other containers and again mixed and molded it. Finally, she shaped the soft dough into uniform ball-shaped chunks that she carefully placed under the sun’s heat, and later warmed over a wood fire. She took every care so that they would not crumble, break, or form cracks that would destroy them or prevent their being carried in bags (Figure 1).



Figure 1. Pemba balls prepared by Sa Mari in her *kampu* in Moengo, Suriname. Author’s photo, 2013.

All Sa Mari's work with water involves cooling down the earth. The materialization of the *doti* as *pemba* involves making a cohesive mixture of water and clay, which enables its further dissolution—once again in the water—so that its ball shape does not break up. When used in baths and decoctions, the dilution of a ball of *pemba* in warm liquid signals its use as an instrument of purification. This is how it integrates therapeutic practices along with plants, herbs, and rum that aim to purge the body and heal diverse illnesses caused by spirits or, conversely, require their manifestation (Vernon 1993). This canalization of energies does not apply only to humans; it can also affect other-than-humans, the artifacts activated by language and actions (the holy drums, for instance, which speak and act) through purification of the soil. Places the moisture of *pemba* is sprinkled and blown upon, any visible actants that instantiate an invisible presence, may have their agency disclosed in the *pemba* encounter. When added to water, rum, and plants, the *pemba* can “calm down” and cool down a person, god, or spirit. To purify a terrain recently cleared for planting and to feed its non-human owners, a blend poured into a calabash is filled with rainwater and slowly allowed to spill over, thereby washing the soil to ensure a good harvest.

The clay blended with water can also be dissolved and applied to human and non-human bodies. This technique allows the *pemba* to work as a medicine (*obyia*) that penetrates and acts inside the *buba*, a term that refers to tree bark, human and animal skin, and fish scales. Practices of disclosure and cleaning activate the human body. The term used to depict the whole body, *sikin* (from the English “skin”), merely describes its outer appearance, a surface that enables the *pemba* to affect each person. By preventing cold—a danger that announces the threat of death—through decoctions, washings, and baths, the dissolved *pemba* penetrates the *buba*, covering it in a white residue. In a hyperchromatic universe where hues distinguish everything that exists, white is the unspeakable color of the ghosts, the dead, and everything that cannot be seen. The watered-down *pemba* also covers and penetrates the *uwii*, the hairs of different sizes and textures that make up the bodily surface of people and animals, bird plumage, and the leaves of plants.

The transmission of solid, granulated, and liquid earth elements singularizes the Maroon body not as an individual organism but as a differentiated process of intensification and condensation in which kin participate. Thus, when the *pemba* acts, it affects more than just one being, whether human or more-than-human. To penetrate the *buba* is to reactivate the distribution of affections in multiple flows of energies and substances. The *pemba* touches and reaches a body-pellicle—producing the individuation of matrilineal bonds through “ongoing ecological relationships” (Strange 2018: 630)—making the causes of illness and ancestral participations visible, showing their intertwining with the earth.

Wind

I encountered the clay balls for the first time during a walk through a large market on the banks of the Suriname River in Paramaribo, where Businengee women come daily to sell roots, vegetables, gourds, and traditional textiles. There, these balls are traded as *pemba doti* (in Sranantongo, “white clay”) for medicinal purposes, but non-Maroons also call them *kulturu dingen* (“things from/of culture”), a euphemism for magical and healing practices known as *winti*. *Pemba* is used to relieve troubles that arise from relations between the living and the dead, in particular the ancestor

spirits (associated with the color white). It can also treat illnesses, and recompense for spiritual injuries caused by hunting in prohibited places, contaminating rivers, or cutting down sacred trees and plants.

In Ndyuka cosmology, however, *wenti* (in Okanisi) appears as a concept depicting the agency and circulation of forces that are either “internal” (bequeathed by the ancestors and reproduced through lineage and blood) or “external” (forest spirits and gods) that affect the body and the vital power that it contains.⁷ This notion hinges on various concatenations of “modes of action” applied to a native theory of spiritual action. Like the wind, breath, and respiration, *wenti* is everything that exists, acts, and moves. Recognizing its presence as a form or an image, though, is a prerogative of a few: the *obiaman* (shaman), the *wisiman* (witch), mediums, some animals, and other-than-human beings. Spiritual action distinguishes those who inhabit the *Goontapu*, whether as prey or as predators—humans, animals, and spirits. The spirits are also called *gadu/wenti* (gods) and may take on distinct names. Their ways of operating, their color, and their languages single them out as varieties of “bush spirits” (*Ampúku*) known by the Amerindians and disclosed to the Ndyuka over the course of their flight from the plantations in the *Fositén*. The spirit of fertility and the crop fields spirit (*Papagadu*), and the “spirits of war and hunting” (*Kumánti*) who inhabit the skies (*Tapu*), possess ethereal qualities that are expressed in thunder and lightning. They inhabit the great predators such as Jaguars and the birds of prey. Finally, there are “the spirits of the dead” (*Yooka*).

Among the Ndyuka the term *wenti* more specifically applies to vengeful predators incarnated in humans, places, and animals who instantiate, remember, and eternalize acts of revenge against witchcraft—an offense committed against a relative, or an animal unintentionally harmed, or a territory that someone has violated. The avenging spirits (*kúnu*) determine responsibilities, affinities, forms of reciprocity, and the rules of living together and living well (*libi makandi*) (Price 1978). A *kunu* attack is usually identified through divination performed either by the victim or by relatives from the same *bée*. They can appear as the *yooka* (“soul” or essence of the dead) of an ancestor, or as spirits, animals, and other beings that guard particular sites. In some cases, vengeance may be interrupted, or harm mitigated, through payments, funerary rituals, and purification (Strange 2021).

But the *wenti* is also what enables life—that is, what moves the body’s extensions, its flows. Likewise, the passages through which humans, other-than-humans, and the earth communicate also act as *wéntu* (in Saramaccan, “wind”) and *koo* (in Aluku, “cold”), categories associated with illness. Bodies with too much *wéntu* are inflated, malfunctioning, and require the prescription of sacred medicines—the *wéntu obyia* (Pires 2015: 115). Harm and illness circulate; they move as though a “harmful breath is present in the air; they are invisible like the wind” (Vernon 1992: 46). To avoid the whitening of lips caused by cold and to maintain their intimate hygiene, women take daily baths with warm water containing plants and *pemba* to retain the body’s warmth and vital energy. Like the wind, the *pemba* acts, restores, unmakes, and recomposes

⁷We need to be attentive to the potential for equivocations (Viveiros de Castro 2004) when these terminologies referring to the agency of spirits are assigned indistinctly to Creole and Maroon groups. For the Saamaka Maroons, for instance, *wénti* are sea spirits and gods found in the rivers of Suriname and French Guiana (Price 2008). For the Creole, *winti* is “a historically grown complex of beliefs and practices derived from African and other sources and acknowledged as ‘our culture’ (*wi kulturú*) by the population segment defining itself as ‘Creole’” (van Wetering 1995: 211; Wooding 1979).

body-earth relationships disturbed by sickness or curses. Just as the wind circulates on *Goontapu* and returns to it after being distributed among the earth's beings, so it works as the same active element in the clay. Its white color recalls the spiritual cosmos and the invisible force expressed by and discernable in the wind. We could paraphrase Ingold and argue that the *wenti* does not possess agency; it *is* agency, since "the wind is the blowing and not the blown, just as people are what they do" (2007: 31).

Knowledge of the modes of *wenti* action and the channeling practices performed through shamanism and divination rites are called *obyia*. This term signifies either the power, control, and knowledge the *wenti* work through, or the substances and materials used for those purposes, generally transmitted from the ancestors to men. But whether or not it is employed to make *obyia*, by activating vital forces that transmute into liquid or evanescent states, its uses of *pemba* discussed so far are partial instantiations. They describe compositions involving concepts, names, and practices, yet do not imply a totality. In my conversations with Sa Mari, for example, the association of the *pemba* with acts of healing and purification, in conjunction with other plants, was an implicit feature of what she highlighted as its many benefits.

Extractions

How is the clay exposed on the earth surface transformed into a *pemba*? The answer goes further than a description of how the balls are manufactured. It projects us into other articulations: the wealth and interdictions associated with the forms of extraction, as remarked on by Georgine. As we turn over the soil strata, we see different modes of being *goon*, *doti*, and *peesi*. Yet, all three terms refract the same powers in transformative processes that are both "intensive" and "extensive," punctuating movements, transferences, and transitions between modes of existing (Latour 2013) on and with the earth. The *goon* is the soil that produces food and the earth from which various life forms originate. Inhabited by humans, spiritual beings, deities, and other more-than-humans, the *goon* composes the *Goontapu*, the encounter of sky and earth, a cosmological realm that shelters everything that exists. In *Goontapu*, different forces are at work, including the wind, transforming the earth into a space where living beings breathe. An in-between place is "open air," in which earth-sky—a combination of light, air, sky, and soil—form one continuous environment (Ingold 2007: S19). On the other hand, *doti* (from English "dirty") describes soil as the ground where people step and animals walk and defecate, and it may also be used as an adjective to stress the uncleanliness of someone or something. *Doti* has properties associated with certain *peesi*, from which it cannot be removed without permission from the forces that inhabit and understand it.

Strange (2016: 269), for instance, situates a *peesi* as part of a sentient landscape, composing a "house" (*osu*, from the English) that shelters a myriad of living beings. This analogy echoes Ingold's "dwelling perspective," illuminating modes of inhabiting, movement, and sensory apprehension (2007: S32). Such ideas emulate the imagery of a common natural home for humans, animals, and other living things. In the Okanisi language, though, *peesi* does not always translate to what modern knowledge calls "place." Although the term is used as a deictic in expressions such as *tan peesi* (a place to live), *woko peesi* (a place to work), or even *meki wan peesi fu mi* (to find a place to live), in other instances it emphasizes the presence of other-than-human beings. Between the soil and the open air, the term *peesi* can be better

understood as a plane where some beings can live, and some relationships are singularized. It resembles a domain that echoes, houses, and acknowledges, in diverse dimensions, the existence of the *goon* through the active powers of the beings living on the earth. *Peesi* may have secret names, language, food preferences, and taboos. *Peesi* speak and intervene to protect themselves from forbidden practices. In conversations with elders about the arrival of the ancestors in the Cottica region, I often heard the expression *be koti wan peesi*, referring to their forebears' actions in creating the conditions necessary to open a village or start planting, hunting, and fishing somewhere. People also say *meki wan peesi* (making/building a place for someone) to indicate both the difference and the recognition of each *peesi*. These meanings preclude our taking the term to mean a pre-existing and undifferentiated landscape, rather than one open to any form of human or other-than-human occupation.

Two other examples provide a clearer illustration of these processes of differentiation. In the first, *peesi* marks partiality and distinctiveness by evoking parts of the human body—for instance, the genital and excretory organs of a man (*man peesi*) or a woman (*uma peesi*). In this case, the two notions—"the man's part" and "the woman's part"—can be approximated to the concept used by anthropologists: gender. Thus, the *peesi* recognize and distinguish the borders, transits, and circulations of substances that communicate between the inside and outside of bodies, as well as the potential for using and sharing them. The second example stems from the fact that a *peesi* instantiates a singular possibility of a relationship with the *goon* through exchange. This may include growing food, offering libations, allowing the building of altars, redistributing game animals, and protecting those subject to food prohibitions. *Meki wan peesi*, then, is not the end of a process of settling a territory but instead the beginning of an exchange relationship that implies a continuous feeding and circulation of substances that nourish bodies and land. The libations and spiritual containers for food stored at the shrines indicate that permission to perform the ceremonies has been granted.

The cloth at the top of a bamboo or wooden structure, inserted into the ground next to plants and receptacles called *faakatiki*, delimits a *peesi*, which may belong to a spirit, god, or ancestor. Libations and food are deposited on the *goon*, which consumes them with the help of the wind, sun, and rain. At the same time, the frame is earthed in places where it can channel the forces beneath and above the ground, acting as a device for the vertical transmission of life forces in motion. At village boundaries, house doorways, and the entrances to fields, a *kifunga* is made—a bunch of not fully open *maipa* leaves (*Attalea Maripa*) secured in the ground by wooden or bamboo sticks set next to bottles and other objects used for libation. It is a protective structure that works as a vector of nourishment while blocking the passage of harmful influences. Every guest who visits a *peesi* protected by a *kifunga* is immediately purged of evil spirits or evil intents by a system of forces. The ability to learn from the *peesi* and to negotiate the prerogatives of passage, dwelling, and cultivation with them implies reciprocity. It means making the *peesi* act through ceaseless flows and exchanges of energies running through structures like the *faakatiki* and *kifunga* from end to end, emerging and returning to the *goon*. We could say that *doti* are substances infused with the specific proprieties from which a *goon* is composed; they are activated in the course of the particular fluxes, transferences, and concatenations that make up every *peesi*.

Humus

The *goon* is a cosmos formed by symbiotic relationships in which the limits of life and death are instituted and shared by various species. Within its space, humans and other-than-humans are distinguished by how they act, feed, and communicate, as well as by their intentions and appearances. Animals, wind, river waters, the beings living in termite nests, and humans are all part of different existing socialities that inhabit both the underground (*ondoo Goontapu*) and the earth surface (*tapu Goontapu*). At the same time, the *busi* and the *wataa* (the forests and the waters, respectively) encompass a multiplicity of other *pees* as socialities in which distinct creatures claim authority and rights against a potential usurper capable of transforming them through predatory forces. The Ndyuka people conceive of these relations as distinct perspectives, similar to what Viveiros de Castro (1996) called “multinaturalism,” whereby humans and other-than-humans share ecologies and “natures,” as well as interspecific relations. The opposition between predators and prey defines diverse viewpoints on these relationships, and the ability to eat can display “potencies to act.” When libations are offered to a *pees*, it “acts” after the *goon* and the spirits inhabiting it are fed.

But these refractions are mainly instantiated through the relations between the prey and predators living in the *goon* and composing it. This applies particularly to those refractions that result from the interactions between a fertile woman and the *goon* inherited from her ancestors, which she uses to feed those belonging to the same *bée*. Refraction occurs when the fertility *gadu*—*Goonmama*, the zealous mother-earth and guardian of the pathways who can generate life—is provoked by the agency of the earth spirits. Cutting down trees, clearing the forest, burning woods, and opening a clearing to erect the first dwellings and settlements require permission and constant nurturing from the agencies that act there, obtained through consultation with the gods. The terrain’s preparation demands that special care be taken with the termite nests, where the reincarnations of the spirit *Akantasi* live, and with the dwellings of *Daguwe*, the snake (*Constrictor constrictor*), which incarnates a *Papagadu*. When a violation occurs, *Daguwe wii* (literally, the *Daguwe* plants) are used to prepare *pemba*-based decoctions, ablutions, and baths. When rules are infringed, the *pees* refract, spreading punishments to the violators. Among the *Goongadu* are genitor spirits that enter women’s bodies. Called *gadu* or *yeye fu a peesi*, they belong to the woman’s *bée*. These primordial forces inhabit humans as the breath or soul (*akaa*) and leave them only at their host’s death, when they return to the ground and are transformed into the *yooka* spirits of the dead. The Anaconda (*Eunectes murinus*) guards the land and the *bée*’s fertility, providing protection while constituting a threat to predators. While cultivating the *goon*, the bellies of women are fecundated by a *gadu* (a spirit from a *pees*), later nourished by the human genitors’ semen. The new being born in the woman’s belly singularizes the mother-child relationships that bind them to the same *bée*. The *pees*’ spirit fertilizes the women. However, the baby inherits food taboos and *obyia* from its human genitors. These must nurture the beings and be infused into their wombs until the newborn children are given their proper names and the ancestors’ *akaa* (soul) is manifested and reincarnated (*nensêki*) in them. The sexual distinction thus follows the “poles of human incarnation and disincarnation” (Vernon 1992: 64), composing and decomposing the body-earth.

Men assume the sole duty of looking after the deceased's corpse and delivering it back to the land in burial rituals. The meanings of the human continuity, composition, and decomposition that takes place via the earth are captured in Vernon's ecopoetics, for whom "nothing is new in the world: neither animals, nor people, nor history. Everything is just the reappearance of what had momentarily disappeared. In this cosmic dimension, individual human life is ceaselessly completed and then relaunched by the conjunction of women and spirits refracting 'mother earth'" (1992: 271). Two images Vernon provides of the ground—as a "curtain" and as a "table of offerings to the ancestors" (ibid.: 50)—describe the transfers that simultaneously involve nurturing and the required separation of the living from the dead. The *Goontapu* constitute a cosmos, an interface, and a milieu that enable the movements, transits, and placements of beings amid the flows of forces, gases, and liquids that traverse the bodies of humans and other-than-humans. To refract, therefore, is to create and allow the continuation of life by making the Ndyuka multiply themselves. The same proliferation applies to plants and animals, whose articulations as rhizomes are mobilized by coloring their leaves or fur with white *pemba*.

But what happens when *doti* is removed from craters filled with chemical and geological waste, turned into *pemba*, and placed in women's mouths? In our conversation, Sa Mari said that the *pemba* placed in women's mouths produced sweetness. I conclude this text, therefore, by returning to the relationships that bring together women's bodies, wrapped in aesthetics, food, spiritual care, and the earth. This articulation "does not happen naturally"; it must be made, as Mol (2014: 101; 2021) reminds us. I will add other compositions to connect body, gender, and soil to care and food.

On Secretions: Recomposing Bodies

The lives of the generations of Cottica Ndyuka who dwell in the landscapes of destruction that comprise Moengo and the surrounding villages intertwine distinct practices. The "traditional knowledge" (*Koni* or *Fosi Fasi*), known by the elders, is often mentioned along with the *modeni fasi*, a "modern" or "adapted" way of doing things practiced by younger people outside the village spaces and far from the traditional territory in the Tapanahoni region.⁸ Between fields and marketplaces, the women—some of whom have converted to neo-Pentecostal denominations—rearrange and recast relations between bodies and the earth. Sa Mari, her yard, tools, and labor became implicated in the chains of causality, substances, extractions, work, and terminology, and the places in which her *pemba* circulates. The body-earth connection in this conjunction was turned into the visible face of a cause, part of the circumstances and problems revealed by laboratory plates, which diffract unwanted mixtures and dangerous metamorphoses. Biochemical relations and their reactions generate internal and external implications for bodies articulated in an extensive network of associations that connects women's blood to the effects of the Anthropocene in the mining areas. And this affects more than one person.

⁸I thank the anonymous CSSH reviewer who remarked on the discrepancies between the uses of *pemba*. This offered me the opportunity to double-check the material discussed with my main interlocutors and highlight important changes happening in Moengo.

Rather than a concatenation of compositional and decompositional movements, *doti* flows as a synthetic matter that crosses other systems (Agard-Jones 2013). In contrast to the ongoing fruition that allows the *pemba* to flow back to the *goon* and heal Maroon bodies, *pemba* is turned into a sign that empowers the geobio-political re-territorialization of Maroon women in enclaves, zones, and frontiers; the gear of the invention and extraction of “inappropriate” otherness (Haraway 1992). The French state’s healthcare system and its multidisciplinary networks make the fluids, bodies, kindred, border controls, and women desire to communicate. The Maroon women, Moengo, and *pemba* appear bundled together as data and evidence. Women’s bodies thus enter into other ontologies and *doti* becomes an index of a harmful geochemical substance in the blood plasma. As Stengers noted, there is no possible way to disentangle the benefits or harms of an elemental from the ecologies in which it participates. So rather than dwelling on its proprieties, we must pay attention to its “circumstantial repercussions” (2021: 28) or its diffractive effects. It is useful to focus momentarily, then, on the drops of blood displayed on the laboratory plates, revealed as scientific data separated from the *pemba*, the water, and the leaves that control the fruition of elements in the mouth and the *peesi*—the “women’s part.”

In 2010, one of the first studies was published on “overexposure to aluminum contamination,” as well as to cadmium, lead, and arsenic; the occurrence of high rates of anemia; “ionic disturbances”; severe intoxication; and “geo-helminth contamination” among pregnant Surinamese women, undocumented Maroons who had given birth at French hospitals in Saint-Laurent-du-Maroni (Simmat-Durand, Richemé, and Toutain 2021: 64). In these analyses and charts, the eaten clay revealed other compositions, chemically complex and susceptible to environmental variations harmful to animals and humans. The kaolin image visible in medical studies—the intersection of biochemical analyses—is that of a composite: blood plasma. Mining substrata and biological matters constitute geobiochemical samplings, evidence of the exogenous components in alien bodies, humans, and microorganisms. “Metallic elements” differ from those involved in “fundamental metabolic processes in living organisms, such as iron, zinc, etc.” (Costa 2022: 129). Drops of blood bear samples of the “intoxication” and “bioaccumulation” that arise from imbalances and from encounters between geological debris, its microbiome, and the bodies of humans, in which they take refuge.

Biochemical nutrients that are present and required for the healthy balance of human organisms react, weaken, and capitulate when exposed. As Haraway (1992: 297) rightly observed, however, organisms are not born, but created. And the very same technologies that “denaturalize” the body by making it a biological object also create the “damaged nature” it supposedly inhabits. In the analyses of the interviews with midwives who worked in Saint-Laurent-du-Maroni, *pemba* figures among various other “inedible substances” that Haitian and Businengee women often consume. But among the Maroon women who admitted to using it in the past to alleviate nausea while pregnant, earth-eating appears as a taste and a craving turned into an uncontrollable desire (Lambert et al. 2013). The passage from occasional eating (according to the specialists, due to “cultural” causes) to “habitual” consumption has qualified *pemba* as one of the most-cited substances among documented cases of compulsive practices and eating disorders—geophagy. The term encompasses a heterogeneous set of practices involving human consumption of soil and other “inedible” substances and describes eating habits sometimes considered abject and divergent from modern understandings of being human.

Geophagy thus signals a confusion between “nature” and “culture” caused by the failure of certain soil-eaters to understand what makes them different from animals and other non-humans. This happens when people depicted as “primitive” cease to conform to the constraints of “culture” and become animalized, embodying dietary customs of “unevolved” species that eat humus and decomposed residues. The biomedical literature, for instance, has offered explanations involving food and nutrient shortages and psychopathological diagnoses that characterize earth-eating as a form of perversion.⁹

But earth-eating also appears to be articulated with the making of gender. In the relationships that comprise Piro agriculture, a native resistance to the hacienda regime, for instance, the practice of eating earth is mentioned metaphorically when sex and food are associated with a “dense network of relationships of mutual desire” (Gow 1989: 580). Subsistence cultivation is closely linked to legitimized sexual practice, gender distinctions, and the roles played by food providers and recipients. Children and youths who ingest substances that are unnecessary for good nutrition but constitute rather “sources of pleasure” are called “perverse”; they lack the “blood” that makes them whole people. Unable to work on the land and fully enjoy their sexuality, they depend on the demands of their families and the market economy. In another articulation involving gender and sexuality in Giovanna Pessoa’s (2005) research on women who eat earth sold in small bags at African immigrant markets in Paris, the pleasure and desire often cited in the description of the practice signal gender differences. For women, it is a “subversive pleasure” comparable to the “vices” of men, while men describe this habit of women as “abject,” sometimes associating it with prostitution. Here the lack of connection to the land and full sexuality echoes the earth-eating non-person described by Peter Gow. Separated from the socialities in which they are seen as mothers and wives, the immigrant women interviewed by Pessoa ingest land and take control of their own bodies, sexuality, and reproduction.

But what if we dissociate the themes of scarcity from our analysis of soil ingestion, bringing pleasure and gender closer to the composition of other socialities instead? In the case of the Cottica Ndyuka women in Saint Laurent, this may allow us to glean a little more about who the eaters are and the soil they ingest. Supported by studies in anthropology, the experts present evidence to show that their conclusions were not based on biased assumptions about Maroon women who use the water from polluted rivers, travel through mining zones, and become exposed to environmental damage. They noted that whatever they eat “as if” *pemba doti* is not “pure” mineral matter. On the contrary, the ingested kaolin found all across the area is heavily poisoned with mercury, aluminum silicate, and various pathogens.

Whenever Amerindian and Maroon women cross the Maroni River to use health services, their communication with specialists is marked by practices based on ontological “misunderstandings” (Grotti 2017: 77; Almeida 2021). The women

⁹On geophagia, see Abrahams 2010. In the Americas, the most frequent historical references often include Alexander von Humboldt’s account of the clay that indigenous people gathered along the Amazonian riverbanks, and the records of the *Cachexia Africana*—the earth ingested among enslaved Africans as a means to commit suicide (Reid 1992: 342)—described as a disease that threatened the very existence of plantation societies. I thank the anonymous *CSSH* reviewer who called my attention to the earth-eating practices among enslaved populations discussed by Barry W. Higman (1984), and to the account of what John G. Stedman 1988 [1790] depicted as “Ground Eaters” in Suriname (1988[1790]). Space limitations prevent my exploring such practices among different slave societies here.

cannot see the evidence of aluminum in their blood, while the experts cannot understand the presences that compose persons and the earth in Maroon ontology. What specialists saw as chemical indices in pathological samples was the earth-soil, “discouraged by language” (Latour 2020: 119), whose action transforms it into an actant with significance. Kaolin is thus the earth-soil in action, invested with a power of subjection, artificially manufactured, and comprising an imbalance of nature caused by the extractive powers of human agency, which appears as addiction, neurological and mental pathologies, and fetal malformations. As the decomposition of “pure” geological substance, the compound-contaminated kaolin allows the place of agency—generally afforded exclusively to humans—to be reversed. In the blood samples, women appear as objects in different ecologies of knowledge practices. The work of translation and capture formulated in the language surrounding kaolin in the geobiochemical and medical sciences makes it a super-animated object. But these specialists also seem unaware that, from women’s point of view, *pemba* is neither earth as a geological extract nor an accumulation of chemical waste. From the women’s perspective, any equivocation was on the side of the experts and caused by the difficulty of comprehending that caring (*luku*) is a way of seeing relationships between body and land.

Diffractions: Caring for the Womb

To conclude, I return, albeit briefly, to Georgine. *Mi abi wan man nono* (“I now have a husband”) she excitedly announced when I returned to Moengo on a new fieldwork visit. I knew just how important the new situation was for her because I had accompanied her to various celebrations that had involved encounters with potential sexual and marriage partners. In these contexts, she had taken special care of her bodily appearance and condition. When visiting relatives’ villages and the *goon*, it was common to see Georgine searching for leaves and roots commonly used for intimate hygiene in *wasi faya wataa* (literally, baths in warm/hot water). The vaginal baths (*ketee uwii*, *gogo uwii* and *uma patu*) had various aims: to interrupt menstruation, for instance, or to reduce body odor after periods; to “cleanse the uterus” and re-establish the vaginal canal’s musculature; to shorten the period of postpartum reclusion; or to diminish the amount of secretion so as to make the woman desirable (Fleury 1996: 179; van’t Klooster et al. 2018).

Pemba is one of the most commonly used substances, but how it is employed remains highly personal. I recollect Georgine’s amazement when asked if one added *pemba* to vaginal baths. She replied, *pemba de kaolin!* (*pemba* is kaolin!). Speaking about the bodily care of Georgine and other women as practices that aim not only to achieve wellness but also to propagate sexual qualities and generate capacities puts *pemba* in touch with gender and earth in a different way from its expressions as addiction and compulsion. From talks with other women, I knew that, when pregnant, they would eat *pemba* both for *luku* (care), endeavoring to ensure the health of newborns, and also to satisfy pleasure and craving. Sometimes, this enjoyment was not denied as such but described as the practice of older women, especially those not converted to charismatic Pentecostal Christianity. Suzan recounted why she had renounced something she had been so fond of using during her first pregnancy to alleviate her nausea and avoid constant vomiting and excessive saliva, both symptoms of malaise and danger signs of potential miscarriage. *Pemba* is said to dry the mouth, producing a feeling of comfort.

That *pemba* is placed in women's mouths makes ingesting soil a practice of *luku* (literally, to care for, look after, see, or keep careful watch over something or someone). Through this act, the connection between gender and soil gains and connects multiple bodies. The expression *luku béé* (literally "to care for the womb/womb": see Moomou 2018: 126), for example, describes intercourse with a pregnant woman as a man's care practice; it is up to men to nurse an unborn child by nurturing it with semen. Likewise, it is up to women to swallow the wealth of the *goon* and control the flow of life-sustaining fluids. A body-earth relationship is thus generated, which propagates the care toward other mutually implicated beings. The acts become relevant as pleasuring, nurturing, and caring actions. The transformative nature of the earth and bodies is shown in acts of care that call into question limits, extensions, and compositions. But before we interpret the role of care through a reductionistic bias, simply merging morality with generosity, I want to draw inspiration from Puig de Bellacasa's explorations and include care as a vital part of the "soil communities" in which humans and other-than-humans are mutually implicated. As she notes: "Caring and relating thus share conceptual and ontological resonance. In worlds made of heterogeneous interdependent forms and processes of life and matter, to care about something, or for somebody, is inevitably to create relation. In this way, care holds the peculiar significance of being a 'non-normative obligation'...: it is concomitant to life—not something forced upon living beings by a moral order; yet it *obliges* in that for life to be livable it needs being fostered" (2012: 186).

Perhaps here we can connect the presence of *pemba* in healing practices performed using *obyia* and in rituals to its use in the most intimate care practices, associated with the preparation of women's bodies for other relationships, instantiated by the fruition of the secretions: sexuality and procreation. A porous and sensitive body composes and permeates but also anticipates relations. Composed of forces that go beyond it, not of limits that internalize it, a woman's body implodes the biopolitical model: its parts do not interconnect fragments of a whole, but only extend flows. *Pemba* acts in the transference of salivary and vaginal secretions and fluids, taking care to control the movement of body substances that must either be retained or expelled. Pregnancy is also a state of being out of control and at risk, a condition that requires care in the control of food intake and the use of words (Vernon 1992: 36–37). This work falls to women, along with procreation, the health of the unborn child, and of the person who carries within her the continuity of the *bée* and the virility of men. It is up to women to control the flows and transits of substances and to preserve the gifts of *Goonmama* and the genitor spirit, making people and expanding the continuity of the ancestral presence in the territories inhabited by the living. *Pemba* allows the healing and heating of bodies, drying up "the women's parts," cooling and moistening the earth by making its astringent substance of rare whiteness flow.

Marilyn Strathern writes, "In describing actions, eating also describes relations. So what is there about people's entailments in one another's lives that, for some peoples at least, eating captures" (2012: 2)? She responds to this question by comparing and juxtaposing the articulations between eating, pleasure, and the body, as explored by Mol, with the making, maintenance, and undoing of the Wari' person, as described by Aparecida Vilaça, for whom "eating" and "nourishing" also involve cannibalism. In both cases, people and the things they eat entangle different concatenations in which both terms are unevenly distributed. Rather than the people, however, it is the relations they embody and actualize that are objectified. Acts such as feeding or

nurturing others become actions through which persons are singularized. A pregnant woman, for example, has the dual responsibility of maintaining her own life by feeding and nourishing someone else, actions indistinguishable in the language of caring. In this case, the woman becomes the object of a relationship in which her body encompasses and contains processes of exchanging vital energy; the mother is simultaneously a part and whole of other relationships. To eat *pemba* is, simultaneously, to receive a food offered and “prepared” by others in cosmological and biochemical compositions, to be nourished by the properties of the *goon*, and to be part of the creation of a new being. Eating as *luku* thus involves acts of relationality that aim to sustain pre-existing bonds and anticipate new ones. Vernon’s (1992: 20) notion of refraction is both an encounter and a reproduction made in the act of capturing images of the soil as a plane of myriad affections. Anyone (and everything) that the soil-earth touches is refracted and replicated. The extraction of kaolin generates wealth in the form of nourishment and persons. The same principle applies to the Maroon person insofar as other-than-humans are all refractions of the soil-earth gods.

When Strathern adds examples to contrast with the material examined by Mol and Vilaça, the person constituted in the act of eating and nurturing is unveiled as an actualization of former acts. “Food itself is the result of others’ feeding; hence eating, in general, exposes the eater to all the pleasures and hazards of relationships” (2012: 8–9). Therefore, placing *pemba* in the processes of composing and decomposing the person by discerning the givers and recipients of food demands that we pay attention to language. When I asked Sa Mari what was done with the *pemba*, she smiled and told me “*a de switi*” (“this is sweet”). She reacted by saying what the *pemba* looked like to her, not what it was for. It is worth noting that she did not say that the *pemba* was ingested. I was able to deduce that it was a foodstuff from the gestures and bodily expressions as I heard and watched her snap her tongue and compress her lips, extending the words to demonstrate both intensity and pleasure. “In women’s mouths, *pemba* is sweet,” she asserted. Even though we were talking in Okanisi, her use of the term *switi* was an attempt to be closer to the English term “sweet.” Sa Mari used an idiom that she thought would help describe to a *bakaa* woman the sensation that *pemba* causes when ingested by a Maroon woman. The fact is that, in trying to maintain a literal Okanisi translation, she merely stated, “this is sweet.” But it is not evident to me that this was a simple predication of the substance *pemba*, especially if we consider how words—those describing edible substances among them—acquire qualities in the Okanisi language. Using sounds and gestures, what Sa Mari communicated was “eating *pemba* is sweet” (*a de switi*). This alternative turns “sweet” into an adverb, an attempt to return to the recompositions of *pemba*.

Following Mol’s careful analysis of the meanings attributed to the word *lekker*—a Dutch term with various grammatical functions, depending on context, though often used as an adjective (“tasty” and “pleasant”)—it is crucial to pay attention to how the word *switi* is related in Sa Mari’s speech. My question was “what is done with *pemba*” and not “what is *pemba*.” Just as occurs when translating *lekker* to qualify an action in English, therefore, stressing the pleasure involved in the act of eating, the term in Okanisi is *pisii* (from English “pleasure” and “pleasant”). By placing *pemba* in women’s mouths, Sa Mari locates a specific kind of body in which its gender is implicated. Women were the only beings able to shelter and generate other beings, nourishing themselves and feeding these others. Mol’s remarks thus shed light on my own attempts to situate *switi* not just in the body or in the earth but also within a language that relates

to women's care practices. *Pemba*-eating and caring for oneself and other humans and more-than-human beings are acts that diffract relations and multiply knowledge about the consequences, unexpected and dangerous, of a bad encounter with the earth.

When Maroon women place *doti* in their mouths, they use their bodies to reactivate the biotic, human, and other-than-human interdependencies that compose the earth. By exploring images of earth-body refraction, I have tried to make both humans and other-than-humans participants of "soil communities," along with the processes of composition and decomposition connected with the damage produced by mining extraction. The modes of "creating" them, so to speak, do not converge in shape or space, nor in terms of the transformations and transmutations of states and substances; instead, they replicate channeled potencies and energies. To say that *pemba* is sweet is to offer a response to what the specialists present as harmful to health: the industrial substrate of capitalism, the chemical that synthesizes alien elements in the erratic flow of human blood. By locating *pemba* in women's mouths rather than in their blood, Sa Mari simply articulated another aspect of the compositions that make wind, water, and earth spirits into vehicles of healing, pleasure, and *luku*. Instead of attributing certain qualities to the body or to the earth, *switi* engages in a sensory action or practice. What was shown in the expressions of sweetness was a desire to "nurture" and "care." Thus "eating" shares aspects with other similar actions like diluting, sprinkling, and washing bodies, objects, and earth, but in a distinct way—as an action specifically pertaining to women. With her bodily gestures, Sa Mari communicated sweetness and pleasure, introducing gender as a difference in action in the landscape of the enduring Plantationocene.

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