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Anthropophagy and sadness: cloning citrus in São Paulo in the Plantationocene era

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ABSTRACT
The present text engages the painting Anthropophagy (1929) by Tarsila do Amaral as a performance in overcoming Brazil’s tropical sadness diagnosed by artists, politicians and scientists. While anthropophagy, or ritualized cannibalism, is central to the recent ontological turn promoted by the anthropologist Viveiros de Castro, the historically situated use of the concept as the one tried in this essay suggests its value in writing new histories of science and technology that challenge entrenched divisions between Global North and Global South. The essay details the scientific practices involved in saving São Paulo citrus orchards from the sadness virus through the cloning of Californian oranges. Contrasting with narratives emphasizing how the north imposes its presence in the south, or how the south resists the north, history of science and technology written as history of anthropophagy calls attention to devouring of the north by the south.

KEYWORDS
Anthropophagy; Tarsila do Amaral; citrus; São Paulo; Plantationocene; cloning

Anthropophagy, or ritualized cannibalism, is ‘the consumption of a fragment of the body of a parent or of an enemy in order to ensure the incorporation of virtues or the neutralization of power’.\(^1\) Anthropophagy is also the title of one of the most celebrated works by Brazilian modernist artist Tarsila do Amaral, painted in 1929 (Figure 1).\(^2\) Tarsila devoured European modernism and its infatuation with primitivism to revisit the country’s cultural elements and perform a new type of Brazilian art. The one-breasted figure at the center stands in for a black servant descendant of the African slaves brought into Brazilian plantations by the millions, a more elaborated version of which Amaral had already presented in The Black Woman (1923). The figure to the right is Abaporu, a Tupi word for the human that eats people, the Amerindian anthropophagus exterminated by European colonialism and Jesuit indoctrination, who had also deserved a previous painting by Tarsila. The 1929 Anthropophagy composition braided Abaporu (1928) and The Black Woman (1923) in a cannibal ritual, both on a green plain against an uncanny tropical landscape of oversized banana leaves and cacti. While in Abaporu (1928) the cactus ‘exploded in an absurd flower’, in Anthropophagy (1929) it exploded instead into a seedless orange/sun.

More recently, the anthropologist Eduardo Viveiros de Castro in his studies of Amerindian perspectivism recovered this celebration of anthropophagy by the Brazilian modernist avant-garde.\(^3\) He took it not only as a promising way of
questioning human/nonhuman divides, a major issue for all science studies scholars eager to follow the ontological turn, but also, and maybe more importantly for the purposes of this collection of essays, as a productive approach to explore relations between self and other, and more specifically, between south and north. In this version, anthropophagy drives us away from questioning the differences between south and north, urging us instead to interrogate the modes in which the south devoured and incorporated the north, thus producing a new social reality. While inspired by Viveiros de Castro, the present text historicizes anthropophagy by situating Tarsila do Amaral’s painting in the deteriorated coffeescape around São Paulo in the first half of the twentieth century, a region swept in the space of a hundred years by ‘the agricultural blaze… driven forward through consuming what it feeds on’. Anthropophagy is understood here as a modernist practice responding to the concrete material conditions of life in the Plantationocene era. Donna Haraway and fellow anthropologists, appalled with the depoliticized notion of the Anthropocene, put forward Plantationocene to denote ‘the devastating transformation of diverse kinds of human-tended farms, pastures, and forests into extractive..."
and enclosed plantations, relying on slave labor and other forms of exploited, alienated, and usually transported labor. Anthropophagy, as practiced by Tarsila do Amaral and fellow modernists, gestured at the reimagining of this ravaged Brazilian landscape to save it from its alleged general condition of tropical sadness diagnosed by both local social reformers and visiting French anthropologists.

The essay approaches science and technology as another manifestation of anthropophagy responding to Plantationocene conditions: It details how São Paulo agricultural scientists incorporated the perceived virtues of the industrious north into Brazil by cloning Californian oranges and defending citrus orchards from the ravages of the sadness virus. I treat Tarsila’s painting not as a metaphor for what scientists do, but as part of a continuum of historical practices that includes both the sciences and the arts, the two aimed at saving Brazil from much feared sadness. In place of a history of mutual influences of science and culture, this essay proposes practicing a single history of science as culture demanding from the historian equal attention to viruses’ research and modernist art performance. The text suggests the value of reclaiming anthropophagy from the exclusive spheres of art history and anthropology and using it to write new global histories of science and technology. This historicizing of anthropophagy avoids considering it as free-floating concept, picked up from the work of renowned scholars or artists and applied indiscriminately. More than offering a corrective, the purpose is to probe what a situated use of Anthropophagy can do to illuminate the historical significance of scientific practices in the constant remaking of the Global South through its devouring of the Global North.

**Anthropophagy and the Plantationocene**

*Abaporu* (1928), the human that eats people, had been offered by Tarsila to her lover the poet Oswald de Andrade who inspired by her paintings wrote his *Anthropophagus Manifesto* (1928) in which he proclaimed: ‘Only Anthropophagy unites us. Socially. Economically. Philosophically’. As later acknowledged by Andrade, ‘it was in Tarsila’s barbaric paintings that I first saw this expression’. And as multiple art historians have signaled, Oswald and Tarsila were not simply influenced by their Parisian modernist masters such as Fernand Léger and importing them to the Brazilian context. The manifesto and the barbaric paintings had, instead, devoured European forms while performing a new Brazilian art ready to be exported to the world. Anthropophagy, through European modernism, subverted traditional European landscape painting of Brazil and its pretentions of objectivity of representation of local flora and people following the rules of perspective. The figures of Abaporu and the Black Woman with enormous feet and legs, small heads, and no facial features were not the humans with a landscape in the background of canonical landscape paintings. These humans were themselves landscape, not conceding any neat separations between humans and nonhumans.

In contrast to essentialist nationalist discourses establishing Brazilian identity, Anthropophagy not only celebrated Black and Amerindian elements as constitutive of the country, but it also suggested the value of Amerindian practices like ritualized cannibalism for resituating Brazil in the world. The act of devouring implied a non-hierarchical relation between self and other, south and north, merging both, and
producing something new, in this case, nothing less than a new Brazil.\textsuperscript{11} Anthropophagy refused any form of stable cultural self-identity and celebrated instead the constant incorporation through ritualized eating of the other for social reproduction. Or as a provocative Oswald de Andrade affirmed in his Manifesto, ‘I am only interested in what is not mine. Law of the Man. Law of the Anthropophagus’.\textsuperscript{12}

But let us situate Tarsila do Amaral historically beyond discussions of her positioning in the modernist art canon. She was the granddaughter of Jose Estanislau do Amaral, better known as ‘the millionaire’, who had made his fortune off large coffee farms in the hinterland of São Paulo.\textsuperscript{13} In the aftermath of the black slave rebellion of Saint Domingue of 1791, Brazil had taken over the Caribbean island as the undisputed leading coffee producer in the world, a position that still holds today.\textsuperscript{14} The coffee farms along the Paraíba Valley between Rio de Janeiro and São Paulo, carved out from the Atlantic Forest through slash and burn, converted the area into one of the major slave economies of the Americas of the nineteenth century, akin to the cotton plantations of the South of the United States or the sugar plantations in Cuba. By 1885, some 285,000 slaves were responsible for an output of 350,000 tons of coffee in the country. After Brazil finally abolished slavery three years later, workers would progressively arrive in coffee plantations not in shackles but as indentured labor from southern Europe and Asia (mainly Japan).\textsuperscript{15} By then the coffee frontier had already abandoned much of the eroded lands of the Paraíba valley and moved inwards into the interior of the São Paulo region following the expansion of a dense railway network of some 7.000 km developed for the transportation of the profitable commodity. In 1892 the port of Santos, which was also the railway terminus station, exported $40 million worth of coffee, and by 1912 the total had risen to $170 million. A few hundred families owning vast plantations with 100,000–1,000,000 coffee shrubs dominated this immensely profitable business. These were the families that could afford to send their sons and daughters to Paris to get cultured in Europe.

Tarsila do Amaral had learned of fantastic monstrous creatures such as Abaporu from tales told by black servants on her family farm in the town of Capivari.\textsuperscript{16} Some 140 km northwest of São Paulo, the town was at the center of an area which became known as the ‘old west’, the second area of expansion of coffee cultivation that had replaced the Paraíba Valley in the second half of the nineteenth century. In the early twentieth century, this area would in turn lose prominence to the new frontier further west, or the ‘new west’. Coffee cultivation, as practiced in São Paulo, ‘driven forward through consuming what it feeds on’, demanded relentless grabbing of new land to replace soils eroded by the monocrop plantation system, a particularly voracious activity always in need of expansion for its survival.\textsuperscript{17} São Paulo’s coffeescape is indeed a good candidate to illustrate the notion of Plantationocene and its constant production of ruins.\textsuperscript{18}

When Tarsila do Amaral painted Anthropophagy in 1929, the production of coffee around Capivari was considerably lower than it had been in the end of the nineteenth century, and coffee farmers made themselves with new lands further west while searching for alternative crops for their old farms.\textsuperscript{19} By 1929, it was obvious that recruiting a cheap workforce and fighting erosion and recurrent pests such as coffee rusts were not the only challenges to Tarsila’s family economic fortune. While international market fluctuations had always been a constant cause for anxiety among São Paulo growers, the Great Depression and the plummeting of coffee prices in New York
the U.S. being the first importer of Brazilian coffee – meant catastrophic losses on a scale previously unknown. Public authorities burned tons of coffee beans in impressive sacrificial bonfires to prevent further devaluation of the commodity, and Tarsila had to sell her family properties, search for a job in the city, and abandon her lavish lifestyle of the previous years. The coffee world seemed to have come to an end.

Tarsila do Amaral’s painting is no celebration of the coffee growers’ saga and their immense riches supporting her modernist education in Paris. Her art didn’t depict brave settlers conquering new land and industrious capitalists bringing progress. She had preferred to engage instead with the leftovers of the ruined coffee landscape, namely Amerindians and black servants, as well as with cacti. In her memoirs, she includes reminders of her preference for the outskirts of the plantation, the rocky hilly areas beyond the well-ordered lines of coffee shrubs, eroded areas where cacti grew and where one could play among fantastic rocky shapes such as the mysterious ‘slave’s cave’.  It was from a cactus that emerged another of the hopeful elements painted in Anthropophagy: a seedless orange/sun.

The first orange orchards in São Paulo had been no more than a complement to the endless rows of coffee trees that covered the area. Occupying first the fruit and vegetable gardens surrounding the main house, as in Tarsila’s own farm, citrus would progressively take over the poorer outskirts of the property, namely sandy soils deemed unfavorable for coffee. Citrus cultivation, initially meant for auto consumption inside the property, would in the last decades of the nineteenth century profit from the communication networks tended to serve coffee operations and reach the increasing urban population of São Paulo. In the first decades of the twentieth century, always on the back of channels first opened by coffee, São Paulo oranges, shipped from the port of Santos, could already be found in the docks of London and Hamburg. Revealingly enough, the main centers of citrus cultivation were Limeira and Araras, located in the ‘old west’ where the rapacious coffee plantations had left behind exhausted unproductive soils. Among the first owners of orange orchards were European laborers who had saved enough to buy the small and medium holdings produced by the division of the large coffee farms sold by their previous owners to make capital to buy new lands further west. The redemption of the land by orange orchards also included the promise of a more inclusive social order than the one prevalent under the hegemony of large coffee farmers.

Californian oranges in São Paulo

Promotion of citrus production was tightly connected with the recurrent overproduction crisis of coffee. Indeed, diversification of São Paulo agricultural portfolio became a major topic for state officials and local agriculture scientists. Among them, Edmundo Navarro de Andrade was probably the most eloquent one. As head of the forestry department of the São Paulo railway Company (Companhia Paulista de Estradas de Ferro), he launched in 1908 a program of reforestation of the state to supply the powerful company with firewood and sleepers. His global search for fast growing trees would not only result in the introduction of eucalyptus in São Paulo but would also familiarize Navarro with citrus cultivation in California.
Navarro could not contain his enthusiasm when describing the Southern California expanding citrus business, which at the time involved some 12,000 growers employing no less than 25,000 workers in their orchards. Fueled by cheap credit, restrictive tariffs imposed on imports from Southern Europe, new railway connections with big urban centers in the East Coast, as well as by increases in productivity that almost doubled tree yields, the residents of Riverside, the center of the Californian citrus industry, boasted the highest per capita income in the United States. The proliferation of banks, theaters, mansions, tree-lined streets, churches, and colleges in the communities of the citrus belt around Los Angeles – from Pasadena, to Ontario, Riverside and Redlands – praised throughout the landscape the growers’ accomplishments while hiding how it was all built on the backs of Chinese, Japanese, and Mexican wageworkers. The boosters’ story of entrepreneurial white men transforming Southern California from a semiarid region that Mexicans and Native Americans had supposedly mismanaged in the past into a new Garden of Eden had its epitome in the racially segregated communities surrounding Los Angeles.

In the 1920s, Navarro’s Californian experience constituted an important part of his citrus proselytism among São Paulo coffee grower’s elite who read his articles in the city’s daily press. Navarro himself bought a large tract of land in Araras, in the Old West, convinced several investors in São Paulo to buy more orchards next to his, and started a profitable nursery in the same area. Oranges, according to Navarro, didn’t mean only a new additional source of income to coffee growers under the constant menaces of overproduction or dangerous pests. As he understood the Californian example, they also constituted a civilizing force: ‘Orange trees don’t like their owners to live far away or be constantly holed up in clubs or always away at their luxury bungalows on a secluded private beach … No one can deny that orange growing is a highly profitable business, a veritable gold mine and treasure trove, but it requires tremendous care, demands extremely hard work and will give you many headaches’. While coffee had allegedly produced an idle urban elite divorced from the land that constituted the basis of their wealth, the orange tree would bring into being a community of civilized horticulturalists, informed by the latest scientific and technical advancements, directly managing their orchards. As in California, there was no mention of the masses of wageworkers doing the actual painstaking work on the farm as members of the new virtuous citrus community.

**Cloning and sadness**

Citrus cultivation methods were the main subject of Navarro de Andrade’s articles, brought together in *Manual of Citriculture*, published in 1933 when the author was no less than state general director of Agriculture. In this book, Navarro de Andrade refers to the importance of the bahianinha (little Bahian) orange, a seedless variety as the fruit painted by Tarsila, in the growing success of São Paulo citrus exports since the end of the 1920s. Despite its Brazilian name, this citrus variety had arrived in the area from the United States and had been propagated by São Paulo agricultural institutions and nurseries. Indeed, the famous Washington navels on which Californian citrus industry was built were in fact oranges from Bahia (Brazil) and had been sent to the United States in 1873. From there the Washington navels, or better said, the Bahia oranges,
traveled to other new citrus areas of the globe such as South Africa, Australia, Algeria, and, of course, back to Brazil.

Buds from American trees selected for their productivity were the ones used to cultivate São Paulo’s new orchards, not buds from trees from Bahia, considered unreliable in terms of fruit quality and quantity. Californian scientists had coined the new term cloning to refer exactly to this proliferation of asexual reproduction in modern agriculture such as budding and grafting, which only differed from traditional horticultural practices because of new bureaucratic registration practices: buds sold as propagation material had to have their origin certified, assuring that they were cut from high yielding trees.²⁷ Citrus had been cultivated in Brazil much before the twentieth century, but the citrus São Paulo growers used to overcome the problems of the coffee economy was the ‘bahianinha’, (little Bahian), a strain of the Californian Washington navel.²⁸ This bahianinha strain reproduced in São Paulo held smaller fruits than the Californian Washington Navels or Bahias, a characteristic that favored its consumption in the European market while Brazilian and American consumers allegedly preferred the larger fruits. The Brazilian identity of the seedless orange painted as sun in Anthropophagy was certainly unstable: a fruit first identified in the orchards around Bahia which had travelled to California where it became known as the Washington navel, a strain of which (little Bahian) was brought into São Paulo to redeem the exhausted São Paulo old west.

In 1933, a shipment of some 2,000 young orange trees from South Africa disembarked in the port of Santos. Sanitary inspectors immediately put them in quarantine after identifying leaf disease and, after several weeks, they had them all destroyed because the trees carried ‘aphids and other insects’. Shortly thereafter, a major disease spread out from the coastal area near Santos affecting the orchards of the entire region. In the following years millions of trees in full bearing would die from the new disease, which together with the closing of European markets in 1939 due to the war in the Atlantic almost eliminated citriculture from the area. The South African nursery stock had brought with them a virus, named by local São Paulo scientist Sylvio Moreira as ‘citrus sadness’.²⁹

American scientists from the USDA in Washington when recounting the sadness virus story pointed at the possibility of the name deriving from the reaction of São Paulo orchard owners in front of their devastated citrus trees.³⁰ This was not how Sylvio Moreira referred to it. The citrus tree itself was the one that expressed sadness: the rootstocks of affected trees were first depleted of stored starch not being able to supply the top of the tree with soil moisture and eventually killing it. One needed an engagement with the plant’s physiology to understand the nature of its sadness. Appropriately for a natural scientist, there was no mention of growers’ feelings in Moreira’s description of the effects of the virus. But describing a virus as carrier of sadness instead of using the colder usual scientific language holds suggestive clues about the role of the scientist in this story, getting us back to the modernist connection.

Sadness had been an obsession of São Paulo cultural elite as well. Paulo Prado, heir of one of the largest local coffee fortunes, had published in 1928 his influential ‘Portrait of Brazil: Essay on Brazilian Sadness’.³¹ He offered grim visions of a sad country populated by a mixed degenerated progeny of Portuguese colonizers, African Slaves,
and Indians. Prado explained the ‘lack of love for the land’ allegedly characteristic of Brazilians subjected to a history of Portuguese predatory colonization with its mines and sugar plantations. Scholars have not noticed how much Claude Lévi-Strauss’s mythical *Tristes Tropiques* owed to Prado’s diagnosis. More important to our argument, Prado used his immense wealth to become the main promoter of modernist events in São Paulo. His house in the fashionable Higienopolis neighborhood was the rendezvous place where all modernists met, namely Tarsila do Amaral and Oswald de Andrade. Prado also prefaced Andrade’s poetry books, visionary texts performing the arrival of a joyful Brazil leaving behind Brazilian sadness. For as Andrade reminded in his Anthropophagic Manifesto, ‘Joy is the arithmetic rule’.32

**Conclusion**

Sylvio Moreira while engaging with citrus sadness was granting science the same status Prado granted modernist art as a practice aimed at overcoming Brazilian sadness, or at least learning how to live with it. Moreira thoroughly experimented with combinations of rootstocks and scions not susceptible to the virus, pointing at how to have a healthy joyful orchard even in the presence of sadness.33 After trade opened once again after the end of the war, Moreira’s experiment station supplied São Paulo nurseries and orchardists with no less than one million buds from virus-free trees. These sadness-free clones would make Brazil in the following years into the number one world exporter of citrus while transforming Moreira’s experiment station into an obligatory passage point for researchers around the globe studying the sadness virus.34 What seems a success story from the point of view of scientists and orange growers is less so when told from a labor and environmental perspective. Problems not too different from the ones faced by the coffee plantations would also afflict the São Paulo citrus orchards, making them into just another iteration of the Plantationocene.35 Land concentration, poor treatment of wage workers (mostly from Brazil’s northeast), and environmental degradation due to an excess of pesticides, were all features of the São Paulo citrusscape of the late twentieth century.

By thinking of science through anthropophagic lenses, one can describe this story as one of São Paulo scientists devouring the north to incorporate it into the south. They devoured California and its oranges to produce an alleged joyful Brazil with a new ‘love for the land’. One does not have to follow the actors’ belief concerning the virtues of this newly discovered Brazil to acknowledge its historical significance. While recognizing the powerfulness of things from the north, the devouring cannibal practice by southerners suggests a non-hierarchical relation between north and south that produces a new entity that incorporated both: Brazil. Contrasting with narratives emphasizing how the north imposes its presence in the south, or how the south resists the north, history of science written as history of anthropophagy calls attention to the historical role of science in the devouring of the north by the south. Inquiries of science as anthropophagy make more salient how scientific practices incorporated the other in the self, deserving the attention of any historian interested in exploring the changing constituency of such large collectives as Brazil.
Notes

4. On the notion of cropscape see, Bray, Hahn, Lourdusamy, and Saraiva, “Cropscape and History”.
5. Lévi-Strauss, 93.
11. The invention of a nationalist identity for Brazil was a common project of cultural elites aligned with the dictatorship of Getúlio Vargas and his Estado Novo (New State) (1937–45). Gouveia, *The Triumph of Brazilian Modernism*; Dutra, *O Ardil Totalitário*.
15. Marquese, “Capitalismo, Escravidão e a Economia Cafeeira do Brasil”.
16. See note 13 above.
17. See note 15 above.
20. See note 13 above.
21. For a general overview of citrus production in the São Paulo area see, Hasse, *A Laranja no Brasil*.
27. Saraiva, “Oranges as model organisms”.
28. Vasconcelos, “A Bahianinha de Piracicaba”.
29. Moreira, “Observações sobre a tristeza dos citrus ou podridão das radicelas”.
30. Swingle, “Tristeza Disease of Citrus”.
32. Andrade, *Cannibal Manifesto*.
33. Moreira and Brieger, “Experiências de Cavalos para Citrus ii”.
34. Salibe, “Production, selection and commercial use of citrus nucellar clones in Brazil”.
35. Boechat, “O colono que virou suco”.
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