

Intervention Symposium—“Plantation Methodologies: Questioning Scale, Space, and Subjecthood”

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Plant-Anthropo-Genesis

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This essay offers the concept-method “plant-anthropo-genesis” to capture the interrelated agencies of plants and people in plantation and plantation-like worlds, and in their counterparts. Like people, plants are workers of a particular sort. Sugarcanes, pineapples, grapevines, berries, cannabis, to mention just a few, work alongside the humans in the fields where they grow, in the mills and factories where they are transformed into products, in the markets that price them and shape both human and vegetal destinies, and in the categories that organize social existences, hierarchies, class, and race. Plants also actively work in counter-plantation gardens and small plots, and above all, in the regenerative worlds sustained by Indigenous cosmologies and other alter-capitalist multispecies relations, that persist and thrive at local scales.

Operating across time and space, our method-concept of plant-anthropo-genesis illuminates the coproduction of plants and people in historical plantation contexts, such as the sugar economy of colonial Guiana, and the sugar and pineapple plantations of Hawai‘i, as explored in this paper. It also sheds light on human–vegetal co-production in plantation-like contemporary agribusiness formations, such as high-yield vineyards and greenhouse berries, and in counter-plantation settings, based on regenerative rather than extractive practices. Such counter-plantation settings include biodynamic farms and vineyards that aim to integrate plants,

people, animals, and the cosmos, and also plantation-adjacent gardens that cultivate affective bonds between growers and their preferred foods, notably plants that bear healing or medicinal and recreational or ritual values.

The concept plant-anthropo-genesis is a methodological device, showcasing how the forms of life linked to particular agricultural practices—extractive or regenerative—shape and are shaped by plant–people engagements. Plant-anthropo-genesis speaks to shared subjecthood and interspecies world-making, highlighting the co-productive agencies of sugarcane, pineapples, and grapevines and their human interlocutors (Chao et al. 2022). It invites conceptual-methodological consideration of dynamic scales of engagement, juxtaposing global traffic in commoditized plants and people with the affective connections of local lived experience. It directs analytical attention to site-specific processes and actors, including the agencies and inter-relations of particular place-based biological life forms and sociocultural/political-economic forms of life (Boncompagni 2023; Helmreich and Roosth 2016; Ingold and Palsson 2014; Paredes 2023; [see also, in this collection, Kumpf; Rudge](#)). In these and other respects, plant-anthropo-genesis centers a diverse array of plant–people partnerships that make, unmake, and remake plantation worlds across tropical, subtropical, and temperate zones.

Allow us to illustrate this with some examples. From their indigenous sites of origin, tropical-climate plants like sugarcane and pineapple, and temperate-climate plants like grapevines and berries, have traveled along tentacular circuits of migration, trade, and colonial expansion. Greenhouses allowed the originally tropical pineapple to grow in the Azores, Portugal’s mild-climate mid-Atlantic archipelago (see Images 1a and 1b). Massive irrigated climate-controlled plastic tunnels permit year-round berry production in southern Iberia’s otherwise arid inhospitable environment. Grapevines inhabit temperate zones on either side of the Equator, now threatened by rising temperatures in their most renowned regions. Along with these plant-accommodations come laboring humans, social transformations, and reorganized vegetal-human connections, as both people and plants move through different geographies.



Image 1a: Pineapple wood-and-glass greenhouses, Arruda plantation, São Miguel (photo by Cristiana Bastos, 2022)



Image 1b: Pineapple wood-and-glass greenhouse (interior), Arruda plantation, São Miguel
(photo by Cristiana Bastos, 2022)

Sugarcane plantations best exemplify the violent co-production of plants and people. Over millennia, sugarcane traveled from the South Pacific to Asia, the Mediterranean, and the Atlantic, transforming societies and peoples along the way, and radically reconfiguring ecologies and social landscapes. Sugarcane shaped, and were shaped by, the circulation of money, the global movements of people, the making of race and racialized subjects. Plant-anthropo-genesis illuminates these processes beyond their political economy. At the same time, the method-concept also sheds light on a less-documented sugar–people connection, embodied by Madeiran and Azorean migrants who followed the plantation system to the Caribbean, Brazil, and beyond.

In their trajectory around the globe, sugarcane stopped momentarily—in the late 1400s and early 1500s—in previously uninhabited Madeira, a subtropical archipelago off the African coast, where Portuguese mainlanders settled in a feudalistic land-tenure system. This crucible of sugarcane cultivation, financial capital, and enslaved labor produced the plantation system which shortly thereafter moved to the Caribbean and Brazil (Moore 2010). Though early plantations in Madeira were eclipsed by their successors across the Atlantic, sugarcane remained there in small plots, engendering memory, taste, expertise, and a collective association with the plant as a marker of distinctiveness among local communities. Still today, people maintain their small sugarcane fields, taking days off from their usual jobs every April to work at the mills, since fresh-cut canes demand immediate processing to maintain their quality, sugar content, and consequent value (see Images 2a and 2b). Meanwhile, Madeiran islanders were drawn to the sugar fields of post-abolition British Guianas starting in 1835, becoming a distinct racialized group among other indentured workers (Collins-Gonsalves 2020). Of those who survived the cane fields, some became rum merchants, creating prosperous communities trading in liquid sugar and other goods.



Image 2a: Sugar canes in Calheta, Madeira (photo by Cristiana Bastos, 2019)



Image 2b: Threshing sugar canes in Calheta mill, Madeira (photo by Cristiana Bastos, 2019)

Later in the 19th century, Madeirans pursued global sugar routes to Hawai‘i, where imported labor included islanders from both Madeira and the Azores, merged as Portuguese/portagee/pokiki. As a migrant group, these communities became settlers (as opposed to Indigenous Hawaiian) and local (as opposed to “haole” or white foreigner) in the sugar fields, with some entering commerce and others homesteading in farms or ranches (Bastos 2020).

Still others joined the pineapple fields and canneries that became iconic of 20th century Hawai‘i. At times, the two groups of Hawai‘i’s Portuguese maintained a symbolic distinction structured by differential homeland intimacies with sugar (Madeirans) and pineapples (Azoreans). Although pineapples didn’t bring Azoreans to Hawai‘i in the first place, many actively embrace their identification with imagined ancestral practices as pineapple specialists. Historically, the Azores’ main island, São Miguel, had become a pineapple-production niche, exporting the luxury fruit to Britain and elsewhere up to the mid-20th century (see Image 3). The exquisiteness of São Miguel’s pineapple derives from a local technology combining the growth

of rhizome “tocos” for six months in rich volcanic soil hotbeds, the transplant of the resulting “brolhos” into glass-and-wood green houses, and the masterful use of compost and plant-based smoke—a process that takes up to two years for any given individual pineapple (see Images 4a and 4b). The distinctiveness of São Miguel’s pineapples (vs mass-produced cheaper tropical pineapples) is a source of Azorean pride and shapes their sense of self and subjectivity across species lines. The connection between pineapples and azoreanness is inscribed all over São Miguel (see Image 5) and it is not surprising that it projected into the narrative of Azorean migration to Hawai‘i.



Image 3: Pineapple export label and box at the Pineapple Culture Interpretation Center, São Miguel (photo by Cristiana Bastos, 2022)



Image 4a: *Brochos*, the pineapple rhizome after six months in a volcanic soil hotbed and before moving to the greenhouse, São Miguel (photo by Cristiana Bastos, 2022)



Image 4b: Artisanal fumigation device, São Miguel (photo by Cristiana Bastos, 2022)



Image 5: Pineapple inscriptions in São Miguel (photos by Cristiana Bastos and Gualter Furtado, 2022)

Along with cultivating plantation crops, subjugated groups also developed a multitude of agricultural alternatives—including the cultivation of cannabis for self-care and recreation—on the edges of cocoa and coffee plantations in colonial equatorial São Tomé (Macedo 2023). In

Hawai‘i, contemporary Kanaka Maoli activists promote the restorative cultivation of kalo (taro) and ‘ulu (breadfruit) as highly culturally valued plants and sources of food (Goldberg-Hiller and Silva 2015).

Grapevines offer another fascinating instance of plant-anthropo-genesis (see Images 6a and 6b). These long-lived perennials were first domesticated thousands of years ago and traveled with soldiers, missionaries, traders, and settler colonists, who planted them extensively throughout the temperate zones on either side of the Equator. Portuguese settlers planted grapes soon after arriving on the uninhabited island of Madeira in the 15th century, later fermenting them on behalf of the British. In the 16th century, Spanish missionaries brought Iberian grapes to make sacramental wine to the Pacific coast of the Americas, establishing vineyards from California to Chile. 500 years after Māori star-navigators reached the uninhabited islands in Oceania that they would name Aotearoa, 19th century European and British colonists brought wine grapes as part of a “civilizing mission” to the island nation they would (re)name New Zealand (Howland 2014).



Image 6a: 19th century Abouriou grapevines, Old World Winery, vintner Darek Trowbridge, Sonoma County, California (source: photograph by Deborah Heath)



Image 6b: biodynamic alpine wines, Domaine Chappaz, vintner Marie-Thérèse Chappaz, Valais, Switzerland (source: photographs by Deborah Heath)

Alongside attending to historical processes, actors, and movements, the concept-method plant-anthropo-genesis also helps us situate vegetal-human dynamics in the context of more recent environmental transformations, including climate change. Grapevines, for instance, are

extremely sensitive to temperature variation, thus acting as harbingers of climate change, with some projections indicating that by 2050 over 70% of the world's currently established wine regions will no longer be viable (Hannah et al. 2013) (see Image 7). As a result, the cool climate of Aotearoa New Zealand has made its vineyards increasingly attractive to both dedicated vintners and foreign investment capital, with some now ramping up export production (Overton and Murray 2014).

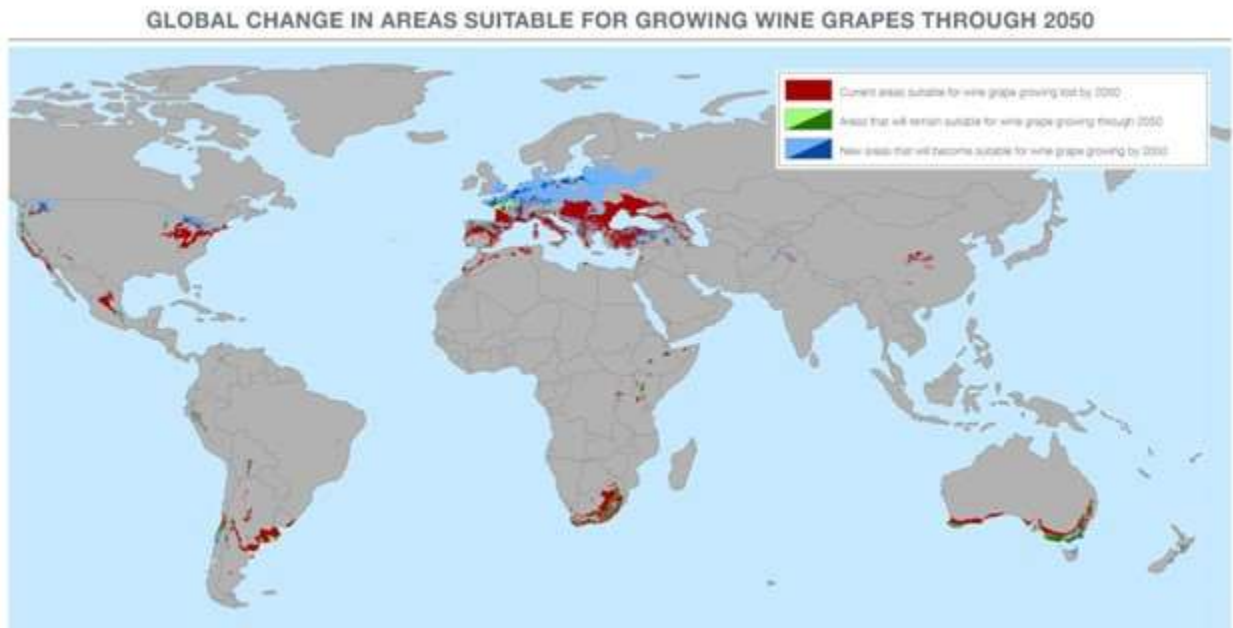


Image 7: Map of wine regions with effects of climate change by 2050; note non-viable and newly-viable regions (© Conservation International; reproduced here with permission)

While conventional large-scale viticulture relies heavily on synthetic agro-chemicals, wreaking havoc on the soil microbiome and the vitality of both plants and animals, winegrowers in Aotearoa New Zealand have successfully pursued sustainability as a national branding strategy. About 10% of vineyards are now certified organic and a smaller subset of biodynamic practitioners follow a path that is “more-than-organic” (see Image 8).



Image 8: Quartz Reef, Demeter-certified biodynamic winery in Central Otago, Aotearoa New Zealand, vintner Rudi Bauer (source: photographs by Deborah Heath)

Following Rudolf Steiner's adage that a farm (or a vineyard) is an organism (rather than a factory), these biodynamic vintners pursue nutrient cycling aligned with lunar and planetary cycles, integrating plants, humans, and animals, along with herbal and mineral preparations in

fermented cow manure (Heath 2023) (see Image 9). Some have joined conversations with Māori food and soil activists like biodynamic farmer Dr. Jessica Hutchings, who grounds her *hua pakore* organic farming certification program on key Māori principles like *whakapapa*, the shared genealogy of all living things (Hutchings et al. 2018). In the process, emergent inter-epistemic engagements enrich the inter-species and inter-elemental relations that cross-pollinate scientific and Indigenous ways of knowing and caring for plants in the face of climate change.



Image 9: Biodynamic zodiac compost calendar, vintner and biodynamic consultant Su Hoskins, Central Otago, Aotearoa New Zealand (source: photograph by Deborah Heath)

As leaders of a locally focused form of activism that has since catalyzed globally, many biodynamic producers in Aotearoa New Zealand studied with the late soil scientist Peter Proctor and his partner Rachel Pomeroy, who also worked for many years in India, successfully

supporting some 100,000 biodynamic farmers, including tea plantation owners.¹ The central place of fermented cow manure in biodynamic practice is also an aspect of the Indian farmers' self-sufficiency movement, Zero Budget Natural Farming, which refers to fermented manure as "the nectar of life" (Münster 2018) (see Image 10).



Image 10: Biodynamic compost with lively worms and microbiota (source: photograph by Deborah Heath)

These counter-plantation practices present a stark contrast to the extractivist logics of the plantation and conventional agro-industrial capitalism. Offering a path towards environmental multispecies justice (Chao et al. 2022), they embody regenerative instances of plant-anthropo-

¹ Himalayan Darjeeling producer Makaibari Tea Estate, the world's first biodynamic tea farm, is one example of biodynamics at scale (Pradhan 2018). Biodynamic wine producer Michel Chapoutier, one of France's largest producers, offers another instance of efforts to blend holistic agro-ecology with larger-scale production. See Paredes (2023) for an engaging discussion of counter-plantations at scale.

genesis rooted in a more-than-human praxis of care—self-care and care of our living environment (Moran-Thomas 2019; Puig de la Bellacasa 2017).

Plant-anthropo-genesis is part of our methodological toolkit for plantation studies and beyond, inviting attention to the plant–people engagements arising from particular extractive and regenerative practices and mutable environments, as climate change and environmental degradation alter livability’s limits.

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