

JAMES ANDREW BILLINGSLEY – An Arboretum at the End of an Epoch

1. An Icy Palimpsest

As a physical place, a country, a society, and, most of all, a complex symbol of planetary phenomena, Greenland is an object of fascination for many in the relative south. Environmental news is full of dire pronouncements about the accelerating melting of the Greenland ice sheet.[1] Enormous ice loss (400 million acres! 684,000 cubic miles! A trillion tons!) and its cataclysmic imagined consequences—including the disruption of North Atlantic currents and a possible six-meter sea level rise (following total melting)—contribute to a popular media portrayal of the island as a sort of boreal Sword of Damocles hanging just above Canada.[2] In 2016, the *Washington Post* declared, “It’s no news that Greenland is in serious trouble.”[3]

But what does this really mean? Unlike certain small island nations in the Global South, Greenland is in no danger of vanishing beneath the waves (in fact, it may see a relative sea level *decline* due to post-glacial rebound), and the chaotic weather events spurred by warmer seas make their severest impacts far to the south.[4] In this usage, “Greenland” serves as a synecdoche for the ice sheet itself—where no one lives, and where melting is of unclear concern for Greenlanders. The Western identification of the country with its ice sheet is as old as its association with the legendary frozen island of Ultima Thule, reaching as far back as the ninth-century Norse colonization of Iceland.[5] In this tradition, Greenland figures as a “constructed” wilderness as understood by the landscape historian William Cronon. This notion of the ice sheet as a prosthetic, even if useful for planetary systems science in general, still reduces the place of Greenland to just one component of an abstract “cryosphere.” This denial of Greenland’s subjectivity is the modus operandi of what Peter Marshall deems “shallow environmentalism”: reducing it to an object for “providing free goods and services for our well-being and for our life-support systems.”[6] James Lovelock himself writes in *The Revenge of Gaia* that “Gaia may suffer from the unfreezing of the Arctic basin and Greenland,” again emphasizing that the ice sheet’s melting is something that *happens* to the rest of the world.[7]

2. Kalaallit Nunaat

Rather than just a cause or consequence, Greenland must be considered as a subject in its own right.[8] Whereas Western headlines suggest

Citation: James Andrew Billingsley, “An Arboretum at the End of an Epoch,” in the *Avery Review* 46 (April 2020), <http://averyreview.com/issues/46/an-arboretum>.

[1] Several examples among many: Michael Reilly, “Greenland’s Ice Sheet is Less Stable than We Thought,” *MIT Technology Review*, December 8, 2016, [link](#); Amina Khan, “Greenland Ice Sheet’s Sudden Meltdown Catches Scientists by Surprise,” *Los Angeles Times*, April 14, 2016, [link](#).

[2] This perception is probably not lessened by the gross distortion of Greenland by certain common map projections such as Mercator and, now probably more ubiquitous, Web Mercator.

[3] Chelsea Harvey, “Greenland Lost a Staggering 4 Trillion Tons of Ice in Just Four Years,” *Washington Post*, July 19, 2016, [link](#).

[4] University at Buffalo, “Greenland Rising as Ice Melts,” *ScienceDaily*, September 23, 2016 [link](#).

[5] Rolf Gilberg, “Thule,” *Arctic* 29 (1976): 83.

[6] Peter Marshall, *Nature’s Web: An Exploration of Ecological Thinking* (New York: Simon and Schuster, 1992), 405.

[7] James Lovelock, *The Revenge of Gaia: Earth’s Climate Crisis and the Fate of Humanity* (New York: Basic Books, 2007), 55.

[8] Alongside their critique of planetary urbanism—an ecological discourse that might define the melting ice sheet as an (anthropogenic) urban *process* rather than either a subject or a consequence—as homogenizing and neoliberal, Eric Sheppard, Helga Leitner, and Anant Maringanti suggest nuancing hegemonic urbanist discourses with alternative theories, in particular Gayatri Spivak’s formulation of “planetary.” Quoting Spivak: “If we imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities, alterity remains underived from us.” If one is willing to take the deanthropocentric initiative to extend this planetary subjectivity to the Greenlandic landscape itself, then the resulting potential for landscape alterity promises to be generative for arguments below. See Gayatri Chakravorty Spivak, *Death of a Discipline* (New York: Columbia University Press, 2003), 73; and Eric Sheppard, Helga Leitner, and Anant Maringanti, “Provincializing Global Urbanism: A Manifesto,” *Urban Geography* 34 (2013). See also Neil Brenner and Christian Schmid, “Planetary Urbanism,” in *Urban Constellations*, ed. Matthew Gandy (Berlin: Jovis, 2012).

that Greenland is doomed, perspectives in Greenland are more nuanced and are characterized by a certain ambivalence, inextricable from the ongoing colonial relationship between Greenland and Denmark, which for over three centuries has repeatedly remade Greenland's economy, politics, and built environment according to its own interests.[9]

A self-governing, purportedly coequal constituent part of the Danish Realm, Greenland now maintains a level of autonomy in its legal system, in some non-military foreign affairs, and in its trade relations. Denmark has agreed to grant total independence if Greenlanders vote for it. Yet the question of full decolonization is complicated as the two countries, their populations, businesses, and institutions, remain tangled in long-standing socio-economic systems. Although around 90 percent of the population of Greenland is at least partly ethnically Greenlandic, Danes are prominent in professional, administrative, and academic positions, and although Greenlandic is the official language, Danish is generally necessary for professional advancement and higher education.[10] Looming over everything is the question of the annual block grant paid by Denmark to the Greenlandic government. This annual payment, currently around 4 billion kroner (approximately \$600 million), represents a substantial proportion of the Greenlandic government's budget that would vanish following an independence referendum; consequently, the desire for full decolonization is saddled with the anxiety over decreased standards of living.[11]

These economic and colonial ties, which tie the hope for independence to a perceived need for economic development, inflects discussions of the climate crisis within Greenland. Current prime minister Kim Kielsen attributed "pros and cons" to the melting ice sheet, and his predecessor Aleqa Hammond said in 2014 that "we must understand that the effects will be both positive and negative." [12] Indeed, reports abound of the economic potential of global warming for Greenland: from agriculture, forestry, and changing fish stocks to aluminum smelting, drilling, and mining—in particular, the mining of rare earth minerals, of which Greenland has some of the largest potential reserves in the world.[13]

Within Greenland, debate is unsettled over what the country's future economy and environment will look like. Even within the pro-development discourse, different voices raise questions weighing various possible routes toward independence: whether potential windfalls from extraction outweigh the upfront investments that require foreign financing and thus risk recapitulating colonial power structures; whether foreign investment, if desired, should be sought from Denmark, the United States, or China; whether infrastructure development should be focused in the major cities, accelerating the decline of the villages, or distributed remotely, requiring even more foreign capital; or whether tourism and a developing service economy present more sustainable paths to economic independence than courting multinational mining conglomerates (which, after all, might rather fly in foreign workers than hire and train Greenlanders).[14] What these scenarios share in common is an ambivalent position regarding global warming that contradicts simplistic Western media narratives of Greenland as a melting time bomb connoting climate doom. Considering this ambivalence, it is notable that the self-rule government successfully petitioned Denmark to request a territorial reservation

[9] This ambivalence toward the colonial relationship is a prominent subject of contemporary Greenlandic art and writing. For a general introduction to the role of contemporary art discourses in framing Greenlandic postcolonial narratives, see Kirsten Thisted, "Pioneering Nation: New Narratives About Greenland and Greenlanders Launched Through Arts and Branding," in *The New Arctic*, eds. Birgitta Evengård, Joan Nymand Larsen, and yvind Paasche (New York: Springer, 2015), 23–38; and Mette Sandbye, "Blasting the Language of Colonialism: Three Contemporary Photo-Books on Greenland," *KULT: Postkolonial Temaserie 14* (2016): 66–89. The art historian and curator Nivi Christensen, director of the Nuuk Kunstmuseum, has argued for the dialectical potential of the Kunstmuseum's contemporary art collection "as a debate forum for Greenlandic identity, not a museum that holds Greenland fixed in the two positions of being either historically anchored or culturally destroyed." Nivi Katrine Christensen, "Grnlands Nationalgalleri for Kunst: En kritisk gennemgang af relevante problemstillinger" (master's thesis, Copenhagen University, 2013), 58, quoted in David Winfield Norman, "Do you think it's over? Performance and the 'Third Place' of Greenland's Art History" (master's thesis, University of British Columbia, 2016), 82.

[10] The Danish-Greenlandic artist Julie Edel-Hardenberg, whose work explicitly engages the cultural ties and tensions between Greenland and Denmark and who has consistently decried an uncritical traditionalism in contemporary Greenlandic art, executed a performance in 2010 titled "Ikioqatigiilluta—Je ger grnlandsktalende" (I am Greenlandic-Speaking), in which she spoke only Greenlandic for six months. In her documentation of the experience, she describes discomfort and awkwardness in interacting with bilingual Greenlandic service workers in her home city of Nuuk, who insist on performing their professional roles in Danish, even though they and Edel-Hardenberg speak Greenlandic as a first language. See Edel-Hardenberg's contribution in Iben Mondrup, ed., *KUUK* (Copenhagen: Hurricane, 2010), 32–47.

[11] A 2019 opinion poll showed 68 percent of Greenlanders in favor of eventual independence, but only 38 percent who would vote "yes" immediately; a 2017 poll showed 78 percent opposed to independence if conditioned on a decrease in living standards. Martin Breum, "Her er den egentlige på dansk og grnlandsk syn på fremtiden" (The Real Difference between Danish and Greenlandic Views of the Future), *Altinget*, January 9, 2019, [link](#); Morten Bjerregaard, "Grnlndere vil ikke ofre levestandard for selvstndighed" (Greenlanders Will Not Sacrifice Living Standards for Independence), *DR.dk*, July 27, 2017, [link](#).

[12] Alister Doyle, "At Ground Zero of Warming, Greenland Seeks to Unlock Frozen Assets," *Reuters*, September 19, 2016, [link](#); John Vidal, "Climate Change Brings New Risks to Greenland, says PM Aleqa Hammond," *the Guardian*, July 23, 2014, [link](#).

[13] Sarah Lyall, "Warming Revives Flora and Fauna in Greenland," *the New York Times*, October 28, 2007; Kevin McGwin, "A Decade on, a Greenland Rare-Earths Mine Is Close to Final Approval," *Arctic Today*, September 5, 2018, [link](#).

[14] For a broad discussion of the position and contestation of Greenlandic extraction and industrial development in the context of Arctic Indigenous autonomy politics, see "Indigenous Statehood" in Philip E. Steinberg, Jeremy Tasch, and Hannes Gerhardt, *Contesting the Arctic: Politics and Imaginaries in the Circumpolar North* (London: I. B. Tauris, 2015), 66–89. See also Leslie Hook, "Boom Town: Greenland's Climate Change Gold Rush," *Financial Times*, September 20, 2019.

for Greenland against the Paris Agreement, leaving Greenland out of the Agreement entirely, with the rationale that “the new climate agreement does not contain legally binding references to the rights of Indigenous Peoples or the Indigenous Peoples’ right to development... and [does] not help to ensure Greenland’s aim for future industrial development of the country.”[15]

And yet while Greenland may be unique in terms of its opportunities to benefit from certain aspects of the climate crisis, it also faces unique threats. In contrast to the more familiar (to US audiences, at least) climate disasters such as wildfires, coastal flooding, and drought, Greenlanders in many cases face social and psychological challenges. The nation urbanized rapidly during the twentieth century, in response to Danish development programs intended to shift the bulk of the economy from subsistence hunting to export-focused industrial fishing; around two-thirds of the population currently lives in the five largest cities. Those who remain in smaller settlements continue to rely on seal hunting as a livelihood, which is growing increasingly difficult as sea ice disappears; the decline in sealing is seen as something of a final blow to a traditional culture already perceived to be retreating in the face of increasing globalization.[16]

In addition, thawing permafrost, earlier snowmelts, and shrinking sea ice compound the isolation of coastal villages during sea-ice season by impeding snowmobile travel. Greenlandic culture historically developed social strategies for addressing winter isolation, which frequently saw entire extended family groups inhabit single structures through the winter.[17] A host of structural changes—including urbanization and industrialization, the importing of European housing typologies, and the effects of global warming on the landscape—have all gnawed away at these social support strategies; their replacement with “modern” equivalents such as government-funded suicide hotlines and (mostly Danish) psychotherapists has been haphazard.[18] The warming of Greenland’s coasts—and the consequent shifts in its landscapes, ecosystems, and forms of inhabitation—will only add more indeterminacy to the mix.[19]

These complex climate narratives belie the clichéd Western interpretation of Greenland as a mute symbol of climate catastrophes—an



[15] “International Commitments,” Climate Greenland, [link](#). According to a 2018 poll, almost 50 percent of Greenlanders considered climate change “neither bad nor good.” For poll data and a broad investigation into Greenlandic opinions regarding the climate crisis and development, see Karin Kirk, “92 Percent of Greenland’s Residents Believe Climate Change Is Happening,” *Yale Climate Connections*, October 17, 2019, [link](#).

[16] Frank Sejersen, “Urbanization, Landscape Appropriation and Climate Change in Greenland,” *Acta Borealia*, vol. 27, no. 2 (2010): 167; Adam Grydehoj, “Urbanization and Urban Design in the Island City of Nuuk, Greenland,” *Island Studies Journal*, vol. 9, no. 2 (2014): 205.

[17] Marie Henriette Madsen et al., “Urbanization, Migration and Alcohol Use in a Population of Greenland Inuit,” *International Journal of Circumpolar Health*, vol. 64, no. 3 (2005).

[18] Karin S. Börkstén et al., “Accentuation of Suicides but Not Homicides with Rising Latitudes of Greenland in the Sunny Months,” *BMC Psychiatry* 9 (2009): 20; Rebecca Hirsch, “The Arctic Suicides: It’s Not the Dark that Kills You,” *All Things Considered*, April 21, 2016, [link](#).

[19] The Danish-Greenlandic artist, writer, and illustrator Bolatta Silis-Hegh has engaged the indeterminacy of Greenland’s environmental futures through several projects that range from playful to grave. In the 2009 piece *Haveforeningen “Sisimiut” Anno 2068* (Allotment Society “Sisimiut” in the Year 2068), the artist installed a tiny picket-fenced suburban garden decorated with plastic plants and ironically repurposed traditional Greenlandic items: sealskin bikinis, dogsled-as-chaise-lounge, cutoff anorak. Accompanying the installation was a Facebook event titled “Greenland Beach Party 2032!” Conversely, in the painting exhibition *Lights On Lights Off* at the Nuuk Kunstmuseum, Silis-Hegh presented a series of intense, vulnerable self-portraits, alternately nude, bruised, and bleeding, in one painting cradling an animal’s head and in another displaying a flayed sheep skull in place of her own head. She describes the series as an immediate reaction to the Greenlandic government’s ending of its ban on uranium mining, a necessary step in developing the enormous Kvanefeld rare-earth mine near her home town of Qaqortoq—a project that Greenland’s government, and many Greenlanders, see as the cornerstone of the industrial development necessary for full independence from Denmark. Describing the difference in tone between *Allotment Society* and *Lights On Lights Off*, Silis-Hegh explained that “I couldn’t put my uranium anger into words, but painting it out opened up other hidden memories that I had long forgotten. Greenland has some of the highest rates of violence, abuse and suicides... and now we were going to do the same to our nature... During COP15 in Copenhagen... I used humor to address important issues such as climate change... In my recent exhibitions, I felt a need to get rid of that filter, and suddenly I had no need for irony.” See Nancy Campbell, “In Clear Sight: Bolatta Silis-Hegh,” *Huffington Post*, October 5, 2017, [link](#); and Lill-Ann Körber, “Toxic Blubber and Seal Skin Bikinis, or: How Green Is Greenland?” in Lill-Ann Körber, Scott MacKenzie, and Anna Westerståhl Stenport, *Arctic Environmental Modernities: From the Age of Polar Exploration to the Era of the Anthropocene* (London: Palgrave, 2017), 145–168.

Protesters demonstrate in Nuuk, Greenland, against the proposed lifting of the national prohibition on mining for radioactive minerals. Photograph originally published in *Arctic Today*, May 16, 2018.



Aerial view of Narsarsuaq, Greenland, showing the airstrip, the treeless landscape, and the beginning of the ice cap.

empty location for foreign universities to send non-Greenlandic glaciologists to retrieve ice cores for the benefit of coastal flooding models for New York City or Dhaka.[20] Western designers in particular will find many of the challenges facing the Greenlandic built environment to be, in fact, quite familiar: urban sprawl, housing shortages, the decay of public housing, the demand for building performance and sustainable construction practices. The difference is that these design questions are face-to-face with the ice cap; they are at the front lines of the Anthropocene transition.[21] Greenland is not a portent of future doom, nor an index of anything outside of itself. Rather, its landscapes are already exploring new, sui generis paths into the Anthropocene—the unfamiliar epoch that stretches out before us. The investigation of one such landscape might offer a challenge to Holocene complacency in Western environmental thought, planning, and design.

3. Arboretum Groenlandicum; Kalaallit Nunaata Orpiuteqarfia

There are not many places in the world where you can eat lunch in an arboretum and then take a leisurely walk to a polar ice cap. Just outside of Narsarsuaq, a hamlet at the southern tip of Greenland, some 400 acres of scrubby foothills are home to a surprising oasis of conifers. This unassuming landscape is the site of a remarkable experiment in the designed environment—and it offers a glimpse into the unknowable and unsettled future on the other side of the Anthropocene transition.

Off of Narsarsuaq’s only paved road, a gravel path leads up a hill and around a retaining pond to a small wooden sign, which reads, in Latin and Greenlandic, “Arboretum Groenlandicum; Kalaallit Nunaata Orpiuteqarfia.” Up to this point the surrounding landscape consists mostly of creeping juniper and willow shrubs, thick moss, showy wildflowers, and enormous dandelions and garden angelica. In every direction but forward, this flat green carpet stretches out toward gray hilltops and down to the sea. Standing before the visitor, however, at a humble five or six meters, is a mirage-like forest. Other than here, Greenland has no forests at all, excepting a handful of warm, damp, protected

[20] A survey of scientists working in Greenland by the Copenhagen-based *ScienceNordic* identified perceived tensions between scientists and local communities stemming from the largely non-Greenlandic character of the research community; one of the interviewed researchers suggested that an increased focus on Greenlandic scientific subjectivity would not only potentially ease these tensions but might also ensure “that the knowledge about Greenland is more rooted in that country.” Sedsel Brndum Lange, “The Majority of Researchers in Greenland are Foreign. Does It Matter?” *ScienceNordic*, 2016, [link](#).

[21] If one accepts the basic conceit of the Anthropocene, then regardless of whether the geological “golden spike” marking its beginning stands at the moment of the Trinity test, at the inauguration of the Industrial Revolution, or at some point further in the past, humanity still remains only at the dawn of this new epoch, still navigating the uncertain transition between Holocene and Anthropocene.

dells where a few local shrubs manage to reach two or three meters—just barely high enough to get lost in. Greenland is mostly treeless for two reasons: the first being the historically cold, dry climate of its rocky shores. The bitter winds that blow off the ice sheet and the long arctic winters have tended to keep plants close to the ground. The second reason is its distance from forested neighbors—too far for hardy conifer seeds to travel by wind or in the bellies of birds (while the seeds of the deciduous trees that might be capable of flying farther have no chance of establishing in the harsh climate, even in tough dwarf forms).

But this regime is changing as Greenland warms and becomes more humid; and the question of its future landscape is becoming, explicitly, a question of design. In general, as plant communities are pressured to migrate or adapt in response to the climate crisis, trees face a disadvantage due to their longer life cycles.[22] Since at least the 1980s, human-assisted migration of tree species into higher latitudes and elevations has been considered a conservation technique.[23] This conservation framework, however, encounters a fascinating conundrum in the case of Greenland; the island's unique position as a boreal landmass with no southern land border means that as the ice cap retreats and coastal ecosystems move north, there are no adjacent plant communities to take their place.

Put another way: though Anthropocene Greenland may soon be warm enough to have forests, there is no obvious answer to the question of what *kind* of forests it will—or should—have. If there are going to be trees, they will have been brought there by humans; and so it seems that in 2100, coastal Greenland will be, to some extent, a constructed ecosystem—a designed landscape.

4. The Anthropocene New Normal

Over the past century, small-scale experiments in tree planting were periodically attempted by Danish settlers along Greenland's southern coast. These tests were mostly entrepreneurial—dealing with one or two species in the hopes of discovering economic opportunities, whether timber stands,

[22] Mary I. Williams and R. Kasten Dumroese, "Preparing for Climate Change: Forestry and Assisted Migration," *Journal of Forestry* 111 (2013): 287.

[23] Test migration programs have been carried out, for example, in Canada at the provincial level since the late 2000s.



The 1953 Qanasiassat tree plantation near Narsarsuaq, characteristic of traditional, enclosed approaches to experimental tree-planting. Photograph by the author.



The Greenlandic Arboretum. Photograph by the author.

windbreaks for sheep, or even Christmas trees for Danish colonists. However, in the mid-1970s, a different sort of experiment was started at Narsarsuaq, with radical ecological potential—if predicated on familiar colonial frameworks. A Danish forest scientist named Sren dum, deciding that the treeless landscape represented an ecological *tabula rasa*, began collecting seedlings from other harsh environments, specifically boreal forests and alpine treelines. In the following decades, thousands of additional plants have been sown, from the Swiss Alps, Finnish Karelia, the Urals, Kamchatka, the Yukon, Mongolia, the Rockies, Iceland, and many other cold places. By the mid-1990s enough trees had survived to maturity for the site to be formally inaugurated as an arboretum; to the present it is maintained by students and ecologists associated with the Royal Agricultural and Veterinary University in Denmark and the Upernaviarsuk farm run by the Greenlandic government.

The difference between this approach and that of almost all other arboreta and botanical gardens is shocking from an ecological and conservation perspective. Rather than a closely managed living laboratory—and far from a genteel arcadian scientific garden—the Greenlandic Arboretum is a dynamic *in situ* experiment, carried out empirically at the landscape scale. Whereas for traditional conservationists the fear of invasive and non-native species is overwhelming and rules over all planting decisions, the planting at Narsarsuaq cannot be described as anything other than *intentional invasion* of a landscape. There are no boundary fences at Narsarsuaq; no controlled burns or targeted herbicide regimens. Trees are planted with the full freedom to grow and reproduce as they desire, to expand in accordance only with their capacity to live.

This makes sense when considering the stated goals of the arboretum. According to the official dedication, the project is intended “to be a reference for use of trees and bushes in southwest Greenland,” “to select mother trees for use in the development of shelterwoods and shelterbelts for Greenlandic farms,” and “to establish a significant forest plantation that can be used as a recreational area for the local folk and tourists.” The overarching hope is that “the Greenland Arboretum may prove immensely invaluable in helping the

local people adapt and prosper in the face of the predicted upcoming climate warming.”[24]

This proclamation carries more than a hint of paternalism, reflecting the unilateral action taken by Danish foresters in establishing this invasive ecosystem on Greenlandic territory. Implicit from the start (like in *dum*’s initial interpretation of the southern Greenlandic coast as a *tabula rasa*) is a colonial refusal of the plants present in the existing landscape—a botanical *terra nullius* framework, through which the absence of conifers, perceived by Danish foresters as a lack rather than a landscape feature, conditions and justifies the drive for afforestation. Unlike the early twentieth-century settler tree-planting initiatives, which were directed by concrete, if speculative, profit motives, the Greenlandic Arboretum is a blithe colonial reaction to an “empty” indigenous landscape. The vague goals expressed in the inaugural statement seem ad-hoc, more post-rationalization than rationale. One can almost imagine the shrug accompanying the imagined “recreational area for the local folk and tourists”—as though either the tourists who fly to Narsarsuaq to see the icebergs and the sublime glacier, or the rural Greenlanders whose cultural heritage, recreational practices, and in many cases livelihoods are tied to the treeless coastal landscape, are in need of a small woodland park to satisfy their desire for nature.[25]

Yet there is still something remarkable about the uncontrolled diversity on display in the Arboretum’s plant palette. It reproduces neither the regimented cosmopolitanism of early modern colonial botanical gardens, which sought to rationalize, instrumentalize, and commodify the wild flora of indigenous landscapes, nor the genteel Picturesque recreations of familiar home landscapes for colonial agents abroad. The explanation for this may be as simple as a lack of Danish tree species suitable for replication in Greenland (Denmark is a particularly non-rugged country). But one might expect the Danish foresters to argue, at least, for the recreation of a northern Scandinavian forest, which they might claim would match Danish cultural tropes embedded in Greenlandic society; or for a Canadian boreal forest to reflect Greenland’s primary geographical association with North America rather than Europe.

Neither of these are the case. The Arboretum’s goals do not express a desire for a “pure” or “native” forest landscape, as advocated by so much twentieth-century conservationist thought. The logic is simplistic: “There are no trees in Greenland, but there ought to be—so let’s find out which trees will work.” Implicit in this mission is the concession by the foresters that any attempt to recreate a southern landscape would be a simulacrum—no more or less artificial than any other mix of trees; and so any Greenlandic forest will necessarily be a novel ecosystem.

The environmental writer Emma Marris has described this framework of novel ecosystems as the “new normal” for ecology in the Anthropocene—wherein the driving question will be not which “native” landscapes to steward but, rather, which features of *new* landscapes to encourage and preserve.

[26] One small, protected valley in southern Greenland nurses a unique community of five-to-ten-meter mountain birches, gray willows, and Greenland mountain-ashes.[27] Should Greenlanders replicate this “lush” but “species-poor” community throughout the country, filling in all the newly forest-friendly

[24] Jerry W. Leverenz and Knud Ib Christensen, “Inauguration of Arboretum Groenlandicum (Kalaallit Nunaata Orpiuteqarfia) on August 2, 2004,” *Dansk Dendrologisk Aarskrift* 22 (2004): 16.

[25] Less than a mile from the Arboretum is a wide valley densely thicketed in tall angelicas and holly bushes. They are not trees, per se—but the thicket is more than deep enough to be lost in.

[26] Emma Marris, “The New Normal,” *Conservation*, June 4, 2010, [link](#).

[27] Department of Geosciences and Natural Resource Management, “The Forest Plantations in the Greenlandic Arboretum,” University of Copenhagen, [link](#).

microclimates? Or might they rather pick and choose from among the forests of the world, designing a new landscape to inhabit in the future? As humanity attempts to survive the uncertain transition from Holocene to Anthropocene, this question will have to be answered everywhere in the world. The small forest of the Greenlandic Arboretum represents a model of landscape designers taking the lead in seeking new answers rather than fighting rearguard actions to preserve a “natural” ideal.[28]

5. Bewildering Diversity

To walk through the Arboretum and face this novel ecosystem is to be overwhelmed by unfamiliar living signs with confused referents. One need not be an expert in tree identification to immediately understand that the forest is a jumble of difference. It is manifestly unlike any other forest in the world, which lends it a distinct uncanniness.[29] It is clear that wild competition is underway, as Rocky Mountain firs and Siberian spruces jostle for position and the forest edges project jaggedly into the surrounding hills. The chaos is not simply ecological; the riot of forms on display is obvious even if one limits observation to the trees’ cones and seed structures.

There is bewildering formal diversity on display as every plant is different from its neighbor.[30] In the midst of the pine and spruce thickets, this diversity manifests as a whirling iteration of branching structures, leaf architectures, pine scents, shades of green overhead, and of orange underfoot. Where a stream or a waterfall cuts through the hillside, it is visible in the elevation of the closed forest edge—a bristling tapestry of needles, shifting in texture from tree to tree. And viewed from the hilltop overlooking the Arboretum, this diversity is seen as a field condition, with overlapping zones of heights, colors, densities, and roundness. Turning away from this wild ferment, the visitor on the hilltop is offered a more placid view out over Narsarsuaq and its surrounding waters. The enormous airstrip dominates the scene: a holdover from the settlement’s origins as a US military staging ground, still the primary transportation hub for all of southern Greenland, and, of course, the main vector for bringing in all the trees in the first place.[31]

[28] To be clear, these “landscape designers” are foresters, botanists, agricultural students, tree enthusiasts—not professionals trained in landscape design or landscape architecture in the disciplinary sense.

[29] It is also easy to imagine the Arboretum as a horticulture professor’s dream—or, conversely, a student’s nightmare.

[30] Channeling the Surrealists, James Corner proposes that “bewilderment is simply a prerequisite for another form of seeing; it is an unsettled appearance that allows for the double presence of human and other.” See James Corner, “Ecology and Landscape as Agents of Creativity,” in *Ecological Design and Planning*, ed. George F. Thompson and Frederick R. Steiner (New York: Wiley, 1997), 85.

[31] Coincidentally, the Arboretum is only a few miles from Erik the Red’s original settlement of the tenth century. Although the sagas report that his decision to name the island “Greenland” was primarily a marketing technique, the archaeological record suggests that the region may, in fact, have been forested before being clear-cut by these Vikings—which only further confuses any discussion about the “native” landscape and its future.



A hybrid landscape—invasive conifers grow up through a layer of native grayleaf willow shrubs. Photograph by the author.

6. Paths Forward into the Anthropocene

There is a liminal figure in Greenland's folklore called the Qivittoq. At root, Qivittut are people who have abandoned society to live in the wilderness, whether because of great humiliation or emotional trauma or because the demands of society have become unbearable. In some narrative traditions, Qivittut have superhuman powers and cause trouble for Greenlanders living in society; in others, they keep to themselves and lead solitary lives in the hills. At least since the 1970s—the beginning of intense urbanization that saw Greenland's village population halve and that of the capital, Nuuk, double—Greenlandic artists and writers have engaged the Qivittoq as a complex, hybrid symbol of radical resistance to globalism and colonialism alike.[32]

Prominent in this dialogue is poet and artist Jessie Kleemann, whose intensely intimate performances incorporate Inuit dance traditions, makeup, and clothing; materials like meat, blood, seaweed, and blubber; and her own body. For Kleemann, the Qivittoq's personal trajectory from humiliation and shame to anger and hatred, and its subversion of the landscape's spiritual potentiality, provide a lens for investigating the systems of internalized self-loathing and shame evoked in Greenlanders by Danish colonial norms and power structures, along with the resulting ambivalence toward Greenlandic cultural identity.[33] In Kleemann's words, "as someone of a postcolonial heritage and a woman, a Greenlandic woman, I have a great need to actually own the wild side of my history." [34] As a model for navigating the intense ambiguities of Danized Greenlandic society, "going Qivittoq" means leaning toward "alienation... a state that constantly changes with time and place... a mental landscape that involves both free will and compulsion." [35] As a chaotic check on the positivism and fictional dualities of colonialism, the Qivittoq shares a certain indeterminacy with the Greenlandic Arboretum; both examples might fruitfully provoke the design professions as they enter the Anthropocene.

If the end of nature and the consequent epistemological apocalypse have left modern bourgeois society stuck in a sort of late Holocene fin de siècle, then perhaps the way out of this melancholy is to inject, however



[32] Janne Flora, "The Lonely Un-Dead and Returning Suicide in Northwest Greenland," in *Suicide and Agency: Anthropological Perspectives on Self-Destruction, Personhood, and Power*, ed. Ludek Broz and Daniel Münster (London: Routledge, 2015), 54.

[33] The complexity of emotion toward the Danish colonial legacy, especially among younger Greenlanders, is articulated in Niviaq Korneliusen's debut novel *HOMO Sapienne*, a narrative of youth alienation and sexuality in Nuuk that became a surprise success in both Greenland and Denmark, and which features a widely reproduced exhortation to "stop all that self-pitying stuff, because it isn't a pity for you. Enough of that post-colonial piece of shit." Korneliusen, in her early twenties for the book's release in 2014, has since spoken on the question of shame, anger, and nationalism, arguing that "we have to improve collaboration to get anywhere. Isn't it time to move on and away from the thought of us as a former colony?... For me, it is important to give the Danes the possibility to gain more differentiated insight into the actual conditions in Greenland." See Emil Eggert Scherrebeck, "Danmark har lrt mig mere end at lave brun sovs," interview with Niviaq Korneliusen, *Information* (November 2014), reproduced and translated in Sandbye, "Blasting the Language of Colonialism," 67. See also Niviaq Korneliusen, *HOMO Sapienne* (Nuuk: Milik Publishing, 2014). For a general introduction to Jessie Kleemann's legacy of engagement with the Qivittoq, see Kirsten Thisted, "'The Hate in the Body': Language, Gender, and National Affiliation in New Greenlandic Literature," *The History of Nordic Women's Literature*, October 12, 2016.

[34] From Ivalo Frank, "An Everyday Conversation with Jessie Kleemann," in *Jessie Kleemann: Qivittoq*, ed. Iben Mondrup (Vejby, Denmark: Hurricane, 2012), quoted in Thisted, "The Hate in the Body."

[35] Jessie Kleemann in Mondrup, *Qivittoq*, 11–12; also quoted in Daniel Winfield Norman, "Do You Think It's Over?" 57.

[36] James Andrew Billingsley, "A Society of Professional Mourners," *Ian McBlog*, January 14, 2020, [link](#).

[37] Stuart Kauffman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (Oxford, UK: Oxford University Press, 1998), 28.

[38] Kauffman, *At Home in the Universe*, 30.

[39] Richard Weller, "Between Hermeneutics and Datascares: A Critical Appreciation of Emergent Landscape Design Theory and Praxis through the Writings of James Corner 1990–2000 (Part Two)," *Landscape Review*, vol. 7, no. 1 (2001): 26.

Jessie Kleemann at the "To Be Present - Live - No Tech" festival at WG Terrein, Amsterdam, September 24–26, 2010. Photograph by Allard Willemsse.

cathartic, indeterminacy into the landscape.[36] The systems biologist Stuart Kauffman writes, in *At Home in the Universe*, that “the poised edge of chaos is an interesting place,” a “web of compromises where each species prospers as well as possible but where none can be sure if its best next step will set off a trickle or a landslide.”[37] It is certainly unclear, as of yet, what will be the consequences of the Arboretum’s bold introduction of invasive plant species into the Greenlandic landscape. But that uncertainty, in the end, is true of all design interventions.

Kauffman ends the first chapter of *At Home in the Universe* by writing: “We enter a new millennium. It is best to do so with gentle reverence for the ever-changing and unpredictable places in the sun that we craft ever anew for one another.”[38] This is an admirably restrained ethos and would be an excellent starting point for a less brutal future; but 2020 is very different from 1990. The Anthropocene transition demands *radical* reactions, not “gentle reverence.” James Corner, who describes landscape architecture as “gentle”—but with scare quotes—echoes Kauffman in urging landscape architects to channel “the lively and spontaneous morphogenesis characteristics of evolutionary creation.” We are still on the poised edge of chaos, but rather than linger in “gentle reverence,” Corner would have us, in Richard Weller’s words, “intervene more powerfully, creatively, and critically in both the makeup and meaning of our world.”[39]

There is certainly a heroic disciplinary chauvinism embodied in this call for iconoclasm, reminding its audience that the powerful creativity and bewildering diversity of the Greenlandic Arboretum cannot be severed from the unilateral imposition of colonial institutions that willfully perceived the Greenlandic landscape as empty. But it is perhaps not necessary to separate these two aspects—ecological and colonial—of the Arboretum, to sanitize one before learning from the other.[40] Instead, the Arboretum might itself contain, in its intentional invasiveness and stochastic anarchy, the key to dismantling the landscape dualisms that made it possible as a colonial act in the first place.[41] That is to say: a focus on the plants themselves—not as signifiers of cultural landscape values or scientific frameworks but simply as growing beings—might reveal that what is unique here is not the novel ecosystem itself (after all, the whole world has become, in essence, a novel ecosystem) but simply the *embrace* of this novelty, and the abandonment of old ideas of purity, of pristine wilderness, of the indigenous world as rediscovered Eden.[42]

Corner concludes his essay “Ecology and Landscape” by calling for a future landscape architecture that will produce “landscapes that precipitate (and are caught within) processes of indetermination and diversification; landscapes that engage, enable, diversify, trick, emancipate, and elude—put simply, landscapes that function as actants, and continual transformations and encounters that actively resist closure and representation.”[43] Whatever form such landscapes might take, the Qivittoq—chaotic actant of indeterminacy, approacher of death, and collapse of dualisms—is their avatar; and the bewildering conifers of the Greenlandic Arboretum are their brave vanguard. [44]

[40] As in the case of the Qivittoq, Greenlandic artists have led the way in investigating Greenlandic-Danish hybridity more broadly. Pia Arke (1958–2007), likely the most well-known contemporary artist from Greenland, incorporated photography, performance, ethnographic research, and the modification of archival imagery into a sharply critical body of work investigating the axioms of the shared colonial relationship, often taking her own family history and ethnically mixed heritage as a starting point: “I make the history of colonialism part of my history in the only way I know, namely by taking it personally.” Pia Arke, *Scoresbysundhistorier: fotografier, kolonisering og kortlægning* (Stories from Scoresbysund: Photographs, Colonization, and Mapping) (Copenhagen: Borgen, 2003), quoted in Kirsten Thisted, “De-framing the Indigenous Body,” 291. The most authoritative survey of Arke’s work is *Tupilakosaurus: An Incomplete(able) Survey of Pia Arke’s Artistic Work and Research* (Copenhagen: Kuratorisk Aktion, 2012). See also Vanessa Gregory, “The Unforgettable Pia Arke,” *Hakai Magazine*, February 14, 2017, [link](#).

[41] Krista Reimer locates within the normative tradition of the landscape Picturesque several of the axioms fundamental to Sren duum’s initial identification of the southern Greenland coast as botanical *terra nullius*. These axioms include the colonial connection between pastoral wooded landscapes with the idea of civilization; the colonial landscaper’s ignorance or dismissal of individual plants or even entire species and genera in favor of broad aesthetic planting typologies; the glib insistence by landscape planners on the objectivity of their decisions (and the total denial of the existence of—let alone their responsibility for—their aesthetic choices); and the objectifying of the landscape into something inert to be sculpted rather than a vibrant actant in its own right. See Krista Reimer, “The Aesthetics of Ecology and the Ecology of Aesthetics,” *Ian McBlog*, January 29, 2020, [link](#).

[42] Anuradha Mathur and Dilip Da Cunha have long been among the leaders within landscape architecture of challenging constructed dualisms inscribed on the landscape by colonial power structures, arguing instead for direct and multivalent engagement with ubiquitous real conditions. In the introduction to *Deccan Traverses*, they write of encountering “neither a colonial nor an indigenous landscape but the extraordinary depth of ordinary elements—trees, gardens, and parks but also flowers, stone, rock, clay, water, tanks, quarries, maps, texts, images, and so on.” Anuradha Mathur and Dilip Da Cunha, *Deccan Traverses: The Making of Bangalore’s Terrain* (New Delhi: Rupa, 2016), xii. For a pathbreaking investigation of stochasticity, growth, and the agency of plants in landscape architecture and gardening, see Julian Raxworthy, *Overgrown* (Cambridge, MA: MIT Press, 2018). An exhaustive discussion of the development of the various western nature myths and binaries, and their ceaseless projection by Western naturalists onto indigenous and colonized people and landscapes, can be found in Peter Coates, *Nature: Western Attitudes since Ancient Times* (Berkeley: University of California Press, 1998).

[43] Corner, “Ecology and Landscape as Agents of Creativity,” 85.

[44] In her graduate thesis and quasi-manifesto, “Ethno-Aesthetics,” Pia Arke concludes, “If we are to belong in a place, we will have to create that place ourselves. We need an expansion of the border; we need to create a third place that will seriously disturb the binary logic of First and Third World relations... There is a sense of urgent necessity about our play with the pieces of different worlds.” “Ethno-Aesthetics,” trans. Erik Gant, typescript (2006), 17; available at [link](#). First published as *Etnostetik* (Copenhagen: ARK, 1995).