HISTORIES OF WHITE ECOLOGIES, GRATITUDES FOR BLACK ECOLOGIES

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These are ecological times. And it is through an ecosystemic lens that insights, awareness, repercussions, and crises – frequently and with increasing force – arise from the tensely entangled relationships between living organisms and earthly environments. Ecology is a lens that creates the very possibility of thinking an Anthropocene – a proposed era diagnosing the recalibration, if not total inversion, of who or what shapes the entire planet and to which ends. However, the racist contexts in which the ecological sciences have developed disrupts and distorts this possibility of thinking, and acting, differently today. The concentration of influence and authority amongst very few (white) humans and colonial activities underlines how science, environmentalism, and environmental history are often blind to the agendas of productivity and political power that they serve.

Against this, we (North American male authors of white/European descent) are grateful to Black ecologies, Black ecologists, and the constructive, fruitful, daringly hopeful, and optimistic incisiveness of associated authors, scholars, scientists, organizers and activists. Black ecologies hold in relief – and give relief from – Western, white-dominated science, ecology and environmentalism, bringing awareness that "they are not the axis around which everything else must turn."[1] The not-so-long tradition of ecosystems ecology, as a set of concepts and practices of natural science developed in the colonial West, has precedents, parallels, and preferable variants that emerge and resonate through life, science, and scholarship outside of those hegemonic constraints. The Earth and its histories are racialized, and racism is a *hermeneutic*,[2] a process of interpretation, that ecological discourse is only beginning to elaborate explicitly. Our gratitude is for those whose deep understandings of this hermeneutics provide the ground for the most radically incisive critical practices we see today in science and ecology, scholarship and research, the arts, design, and architecture. Gratitude brings with it motivations and means of moving beyond critical histories and of witnessing, supporting, allying with and amplifying the concerns and initiatives of our BIPOC teachers, colleagues, and collaborators (without asking ever more of their time and effort).

Just as Anthropocenean discourses are "powerful in disavowing and erasing racial antagonisms,"[3] it is "buried within these epistemological discussions of the Anthropocene, that the structuring effect of race is most pernicious."[4] It cannot be said emphatically enough that the natural, ecological, and Earth sciences have been enabled by some people's cultivated intentions to see and treat other people and beings as lesser, collectible, categorizable, hierarchically valued, exchangeable and subject to management, extraction, exploitation, and elimination.[5] There are explicit ways that the epistemic patterning and practices of the natural science of ecology, in particular, are predicated on the dominion and privilege that white people have presumed over nonhuman species, colonized territories, Indigenous lives, and Black people. Much scholarly work has been devoted to the unwitting or inherently racist hierarchies suggested by Ernst Haeckel, who coined the term "ecology" in 1866 to describe a science of the relations of an organism to its surrounding environment.[6] The transition from Baconian and Humboldtian science – loosely, a transition from localized, inductive observation to a hermeneutics of discovery through exploration – into the twentieth century's ordering regimes installed colonial relationships within both knowledge and territory.

These relationships triggered an appetite in the natural sciences for expansionism which contains and interrogates – literally *gathers up* and then *pins down* – other beings, until they give up their secrets. Fieldwork, imagined and reported as adventurous conquest, begot material samples and knowledge resources – all obtained as part of the expansion of racial capitalism. The "comprehensive" Western view of Earth's living "systems" directly benefited from the specimen collection and interchange that took place via slave ships.[7] In fact, even some of the names we give to animal species venerate advocates of the slave trade.[8] Many ecological conservation approaches and organizations[9] are applications of racial supremacy rooted in colonial conceptions of a "pure" nature that suddenly needed to be "protected" from traditional Indigenous presence and practices, privileging pristine (white) European leisure, hunting and safari activities.[10] This will-to-protection becomes overzealous and paranoid[11] in its variations, proof of the untenability and deep fearfulness of white toxicity, fragility and "chronic whiteness."[12]

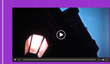
In the early twentieth century, anthropomorphization of ecological relations gave weight to "the concept of *Lebensraum* (living space) that became central to Nazi population planning strategies and programmatic eugenics."[13] As Philippe Lynes (referencing Roberto Esposito) writes:

> Nazi bio-thanatopolitics and the personalist biopolitics of liberal individualism are the mere reversal of one another; both remain bound to the same imperative: "to manage life productively: in the first case, to benefit the racial body of the chosen people; and in the second, to benefit the body of the individual subject who becomes its master."[14]

Ernst Haeckel had suggested a kind of superorganism that results from individual-environment interrelations, an idea which gave scientific status to separatist regional and urban planning strategies.[15] This science of ecology was popularized as "ecosystems science" by Howard T. and Eugene Odum through the postwar cybernetic "American Century." The prevalence and attractiveness of ecosystem theory brought "Haeckel's vision of multitudinous environments, evolutionary change and contingent relationships back into the fold."[16] Ecosystems would cast ecologies, and eventually the planet as a whole, in this constructivist view: wholes and parts, structures and substructures, transposable functional subsystems. First published in 1953, "the whole is greater than the sum of the parts" is inscribed in the first chapter of each edition of the foundational textbook the Odums authored, *Fundamentals of Ecology* – the only textbook in the field for a decade.

For the two Southern gentlemen Howard T. and Eugene Odum, the science of ecosystems excluded other schools of organismal, population or community ecology. For them, ecosystems were circumscribable as isolates, their boundaries' inputs and outputs separatable, traceable, measurable, and diagrammable.[17] As numerous feminist and decolonial critiques of Renaissance and Enlightenment European science have pointed out, this is a worldview based on fungibility and assumed isolation from outside factors and controlled variables. "Parts can be removed and interchanged; one atom can be substituted for another; one organism can be introduced and another removed," as Carolyn Merchant writes.[18]

This formulation of holism stems from the work of Jan Christian Smuts and his 1927 *Holism and Evolution*.[19] General Smuts, a commander for the Dutch and Huguenot settler side of the Boer War, was a proponent of white paternalism and a prominent figure in the construction of apartheid in South Africa, where he also famously was responsible for Mahatma Ghandi's arrest.[20] Smuts's thinking represented a strong thread amongst emergent ecological thinkers, including racist "polygenetic" theories about God having created separate species of human "races" – a theory that dominated Western science through the nineteenth and well into the twentieth century, and is far too prevalent even today. Holism's mantra of sums and parts created biotic communities that were determinant, distinct, and structured for inequity.



An excerpt from Adam Curtis's series All Watched Over by Machines of Loving Grace (2011), describing relationships between [illegible] thought, mechanistic models of nature, ecosystems, cybernetics, and the Odum brothers, and how ecology would rise up to "become one of the dominant sciences of the twentieth century."

In 1945, W. E. B. Du Bois called Smuts "that great hypocrite,"[21] pointing out the latter's selective application of the distinction "humanity" that allowed him to simultaneously promote the United Nations as an organization while directly oppressing, disenfranchising, and subjugating Black people in South Africa. Smuts's contradictory influence on post-war colonial anthropology, environmental policy, and science is underlined by the way in which apartheid in South Africa "came to symbolize everything the United Nations stood against."[22]

Eugene Odum discusses ecosystems, beginning with the difference between "natural" and "human" hierarchies, including the cybernetic regulation of ecosystems. Recorded in 2000 at the Institute of Ecology, Georgia University.

The Odum brothers' mechanistic worldview was also heavily influenced by their father, Howard W. Odum, a well-known Southern sociologist who espoused a "Regionalism [that] lies at the basis of the larger ecology and helps to interpret sociology as a natural science in the sense of measuring the capacity of social organisms to function."[23] The younger Odums's reiteration of holism manifests a "conciliatory, evolutionist view"[24] toward white supremacism in the United States and its effects on regional segregation, a naturalizing idealism that still haunts the science of ecology. As David Pepper writes, "the ecocentric interpretation of twentieth-century science tends towards . . . idealism."[25] Arthur Tansley, avowed godfather of ecosystems theory, wrote of Smuts's contradictory "use and abuse of vegetational concepts,"[26] given his holism rooted in racist idealism.[27] The effect of this idealism, not least through the prideful, prolific, and political work of the Odum brothers in fusing it with postwar cybernetic applications and policy orientations, is a racialized component of ecological epistemology. The Odum's concepts and practices were influential on environmental assessments and conceptions of the environmental surround as "ecosystem services:" human-engaged systems that are optimizeable, or at least manageable, through ecological design, regional and urban planning, architecture, and numerous forms of the environmental sciences – all formed by naturalized separations and hierarchies created against this white supremacist backdrop.

> For more than two hundred years white people had worked to fill their emptiness; they tried to glut the hollowness with patriotic wars and with great technology and the wealth it brought. And always they had been fooling themselves, and they knew it.[28]
> —Leslie Marmon Silko, *Ceremony*

Colonial settler cultures, as Leslie Marmon Silko reminds us, have long fooled themselves to forgive the dispossession, violence, and death that sustain them. Histories of ecology, geoscience, and science, also in Western scholarship and cultural critique, partake of a narrative, revelatory trope – exorcising the racism that haunts much of the edifice of modernity and modern science: an ever-expanding index of white supremacist domination. Critical scholarship often re-composes an archive of macabre, apocalyptic conduct and worldviews that are all too consistent and predictable, and that are also part of the projected constraints of a "capitalist realism."[29] Inscribed in this realism is an index of histories generating the cynicism and scarcity that is vital for the maintenance of extractive systems, accelerating species extinction and the ongoing degradation of planetary ecologies. Although an awareness of such genealogies and their deconstruction are important, "the work of liberation" is also "tied to the uneasy work of getting in touch with the materiality of our analytical worlds."[30] Well aware of the effects of critique to galvanize and inspire, we are called to re-compose new indexes that impel not just knowledge of prior transgressions, but knowledge that transforms or presents and futures; new imaginaries and practices, practitioners and poetics of thought, knowledge, science and ecology.

> I propose that the only possible viable strategy is an epistemological revolution and epochal second emergence by which "we-the-underdeveloped" intelligentsia who feel ourselves "clumsy" in a world of "mechanistic" explanatory models transferred reductively from a natural-scientific order of truth to a culture-systemic order of being/reality, will seek to complete the only "partial truth" of the West's science by means of the third "true victory."[31]
> —Sylvia Wynter

To take up the intervention of Black ecologies is to take it as the epistemological revolution that Sylvia Wynter calls for, superseding and replacing ways of life and modes of extraction, as well as critical projects that exhaust their sustainability, vitality, creativity, and promise. It is a revolution that will allow names like Smuts and Tansley to diminish in importance (along with the whole white supremist index), while names like Christian Cooper, Corina Newsome, and Anna Gifty Opoku-Agyeman ascend. As Minna Salami writes of her own female Blackness, the insights of Black ecologies are not "new" or "alternative" perspectives to the Europatriarchal ones.[32] Black ecologies are not "substitute" or "minority" discourses. They are continuous and deep histories and narratives; ubiquitous, illuminating shadows that bring to ecological thinking what West African writer and organizer Malidoma Somé describes as the "sacred darkness" of the Dagara people.[33] The "backroads" of ecological thinking are as important and often more important than its main thoroughfares, as the latter "are defined by whiteness – and with it policing and vigilante danger."[34] The auspicious shadows and darknesses have been held beneath the harsh lights of the "enlightened" Europatriarchal ecological-scientific complex and by supremacist histories and historians, architectures and architects, designs and designers, sciences and scientists.

(left) "Black Ecology" by Nathan Hare, as published in the 1970 Park Practice Program's publication *Trends*. Hare also co-founded *The Black Scholar* in 1969, a journal of Black culture and political thought which has since its inception addressed topics in natural science, ecological design, urban planning, and architectural theory and practice. (right) The cover of the April 1970 issue BLACK CITIES: COLONIES OR CITY STATES?

In 1970, the field-opening scholar and Black nationalist Nathan Hare suggested that "the concept of ecology in American life is potentially of momentous relevance to the ultimate liberation of black people."[35] In writing "Black Ecology," Hare outlines the manifold differences between ecological ideas and experiences of white and Black people in the United States and beyond. He notes how whites in the US have attempted to create exclusionary natural terrains and maintain spaces of leisure, while high-density Black populations are disproportionately exposed to toxic environments. Since that time, ecological ideas have been ambiguously extended beyond their contexts of origin in the biological and geological sciences. Ecological values like diversity and heterogeneity have deeply influenced other systems, movements, and people, some of these positively affecting conjoined problems of environmental racism and white-supremacist ecological policies. Europatriarchal[36] ecological thinking, however, has sought to harness diversity and difference less to liberty, more to productivity, creativity, and intelligence; heterogeneity has become "a stimulus to improvement," a now "common strategy for promoting acceptance of racial, ethnic, and religious minorities in many corporate and educational institutions."[37] Communities that purport to appreciate the importance of ecological concepts like niche species or the supposed harmoniousness of biogeochemical cycles use these naturalizing principles for all sorts of things – marketing and economics (for example, the "long tail" economies of niche products[38]), manufacturing (for example, product cycles[39]) and design thinking (for example, circular design). These ambiguous origins, uses, and fortunes of ecology are underscored by a line that stretches from the military-industrial and nuclear beginnings of ecology as a white-American science of ecosystems[40] to Audre Lorde's diaries of her experience of cancer as ecological – as "above all else, an environmental disease."[41]

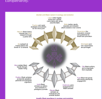
> The unraveling of ecosystems and increasing wildness of the weather are part of the ripeness for death that marks antiblackness [...] what is called climate change is the intensification of Whiteness as a global, antiblack climate.[42]
> —Nathan Stormer

By WILLIAM M. KING

The Importance of Black Studies for Science and Technology Policy

"The Importance of Black Studies for Science and Technology Policy" published in 1992 by William M. King in *Phylon*, a peer-reviewed academic Black Studies journal founded by W. E. B. Du Bois at Atlanta University in 1940.

In more recent writings on the importance of Black Studies to science and technology policy, African American scholar William M. King underlines how scientific content is, in some ways, "determined by the social values of the context. Not recognizing this truth has allowed us to believe 'a whole lot of things that ain't necessarily so.'"[43] For King, all science is *ethnoscience*, a now somewhat awkward, perhaps unfashionable term from the 1960s that nonetheless captures the idea that knowledge systems are always related to some form of indigeneity; that is, arising or occurring naturally in a particular place. King's notes on epistemology and policy are an important and straightforward outline of the ways in which mainstream Western natural sciences arose in the presumptively savage and perversely protracted "space" created by settler-colonial accumulation, dispossession, and plantation capitalism.[44] In spite of popular cultural conceptions of a universal, generalized or ideologically "clean" master Science which explains natural realities, he situates the genealogy of the Western techno-industrial complex in a Judeo-Christian, colonial ambition to impose control. Systems and conservative strategies resisted change and were oriented toward a control point, median, or status quo. As Minna Salami writes, "science is the religion of modern Europatriarchy."[45]



"Recommendations for authentically amplifying Black scholars while abolishing white supremacy in ecology and evolution," a figure from the paper "Recreating Wakanda by promoting Black excellence in ecology and evolution," published in the journal *Nature Ecology & Evolution* 4, no. 10 (July 2020): 1311–13. Such imaginings of pedagogic and methodological revisions extend and propose action around the importance of Black Studies for science and technology policy called for earlier by William M. King.

The alt-right's perverse reappropriation of evolutionary and genetic research is further proof that the lines of debate are still being ecologically drawn.[46] This exists as alt-right pseudo-scientific discourse on social media and other more institutionalized outlets, for example, perversely attempting to naturalize separatism and anti-immigration as "white habitat loss."[47] Such ideas still stimulate white-nationalist resurgent land-based and neo-fascist racist movements.[48] Sylvia Wynter sharply draws together histories of Western knowledge production and its implications for state-sanctioned violence in her rallying cry, "No Humans Involved: An Open Letter to My Colleagues," in which she takes up the figure of "overrepresented man," entitled, white, supremacist seekers of omniscient knowledge and scientific mastery. For Wynter, "overrepresented man translates into justified violence against Rodney King, and by extension, all Black people." Her "Open Letter" calls scholars, researchers, and knowledge practitioners to "marry our thought to the plight of the new poor and the [illegible] buried in the epistemological frameworks of the Anthropocene.