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Toxic coloniality and the legacies of resource extraction in Africa¹

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Abstract

This review essay examines the colonial roots of toxicity caused by resource extraction across Africa, thereby foregrounding the persistent necropolitics of oil spills and mining waste dumps. Zooming in on examples of mining and oil drilling localities, with a particular focus on Johannesburg, the Central African Copperbelt and the Niger Delta, it sheds light on what coloniality entails. This article traces the long-term temporalities of extraction, capitalism and waste to show the toxic aftermaths of colonial mines and oil wells. In doing so, the article probes the possibilities and impossibilities for decolonial forms of environment making. By bringing global environmental humanities literature on resource extraction into conversation with the specific histories of African localities, the nature of the planetary regime of extraction and its toxic effects are highlighted. More closely studying these histories of coloniality and toxicity is crucial in responding to the climate crisis.

Keywords: African history, extraction, mining, oil drilling, coloniality, environmental humanities, environmental inequality

Across Africa, resource extraction accelerated markedly under colonial rule. The decades after 1860, in particular, witnessed a veritable scramble for Africa's mineral resources, with heavily capitalised and mechanised mines springing up in places such as Kimberley (South Africa, diamonds), Élisabethville/Lubumbashi (Belgian Congo, copper) and Jos (Nigeria, tin).² Forms of extraction varied markedly, as did environments—extracting small amounts of uranium from the earth differed from the bulky mining of coal, the effects of an oil spill in the desert were not the same as those in a swampy marshland, whereas the environmental destruction from open-pit mines visibly surpassed that of underground mining. Forms of colonisation also showed much variation, ranging from violent settler colonialism to a more

1 Research for this article was funded by the European Union (ERC, AFREXTRACT, project number 101039920). Views and opinions expressed are however those of the author only and do not necessarily reflect those of the European Union or the European Research Council. Neither the European Union nor the granting authority can be held responsible for them.

2 Chris Youe, 'Mining Capital and Colonialism in Africa', *Canadian Journal of African Studies* 44, no. 1 (2010): 179–87, doi.org/10.1080/00083968.2010.9707564; Jade Davenport, *Digging Deep: A History of Mining in South Africa, 1852–2002* (Johannesburg: Jonathan Ball, 2013); Iva Peša and Corey Ross, 'Extractive Industries and the Environment: Production, Pollution, and Protest in Global History', *The Extractive Industries and Society* 8, no. 4 (2021): 100933, doi.org/10.1016/j.exis.2021.100933.

laissez-faire attitude in remote borderlands. While acknowledging this diversity, this article examines how these localised histories of mining and oil drilling contributed towards a broader regime of extraction that has entrenched forms of toxic coloniality. Through various examples, this article scrutinises how highly unequal colonial land and property relations underpinned the pernicious myth of ‘cheap nature’ and created toxic ‘sacrifice zones’, damaging ecosystems and people alike.³ The legacies of this toxic coloniality have endured long after the demise of formal colonialism. While scholars have started to theorise ‘climate coloniality’, what did this actually consist of?⁴ This article attempts to clarify the coloniality of resource extraction and its attendant toxicity in Africa.⁵ How can the colonial roots of mining waste dumps or oil spills be better understood? Which dynamics ensure that the toxic legacies of colonial resource extraction continue to reinforce environmental inequalities in the present? What might a decolonial ecopolitics that counters toxic coloniality look like?

As the geographer Farhana Sultana writes, ‘[c]limate coloniality reproduces the hauntings of colonialism and imperialism through climate impacts in the post-colony’, revealing ‘uneven and unequal vulnerabilities and marginalizations.’⁶ While encouraging productive explorations of racial capitalism and the inequalities of planetary climate change, the specific *colonial* origins of ‘climate coloniality’ require more careful mapping. This article analyses examples of resource extraction across Africa to ask how particular patterns of colonialism—and attendant dynamics of capitalism, racialisation and extractivism—generated environmental transformations and toxicity that have proven to be remarkably durable, even in the present. How can looking at colonial history help explain the necropolitics of contemporary pollution in localities hosting mines and oil wells?⁷ Building on the rich and expanding literature that has documented the variety of extractive localities across the African continent, this article seeks to draw out more general features underpinning toxic coloniality. To grasp the coloniality of resource extraction, this article highlights four thematic threads from the literature: it examines temporalities of extraction, focusing on abundance and exhaustion; extractive capitalism; waste and the creation of difference; and, finally, it probes the aftermaths of colonial toxicity and the possibilities for decolonial forms of environment making. By examining these four spheres, which single out the logics of extractive acceleration, colonial capitalism, waste and toxicity,

3 Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015); Steve Lerner, *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States* (Cambridge, MA: MIT Press, 2010), doi.org/10.7551/mitpress/8157.001.0001.

4 Farhana Sultana, ‘The Unbearable Heaviness of Climate Coloniality’, *Political Geography* 99 (November 2022): 102638, doi.org/10.1016/j.polgeo.2022.102638; Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis, MN: University of Minnesota Press, 2019), doi.org/10.5749/9781452962054; Françoise Vergès, ‘Capitalocene, Waste, Race, and Gender’, *E-flux Journal* 100 (2019): 1–13; Laurie Parsons, *Carbon Colonialism: How Rich Countries Export Carbon Breakdown* (Manchester: Manchester University Press, 2023), doi.org/10.7765/9781526169198.

5 Gabrielle Hecht, ‘Interscalar Vehicles for an African Anthropocene: On Waste, Temporality, and Violence’, *Current Anthropology* 33, no. 1 (2018): 109–41, doi.org/10.14506/ca33.1.05.

6 Sultana, ‘The Unbearable Heaviness of Climate Coloniality’, 3.

7 Achille Mbembe, *Necropolitics* (Durham, NC: Duke University Press, 2019), doi.org/10.1215/9781478007227.

the defining features of toxic coloniality will come into clearer view. Through a focus on waste, this article combines distinct literatures on extraction and remediation to explore the possibilities for alternative regimes of extraction based on practices of care.

Abundance, scarcity and exhaustion

In a lucid overview study of ecological change under colonialism, Corey Ross argues that the most salient environmental legacy of European imperialism was its ‘colonial attitude towards nature.’ This attitude entailed an obsession with the mastery of the biophysical environment and a belief in perpetual economic growth, both of which tended to justify extractivism and further attempts to dominate colonised lands and peoples.⁸ To bring the specific environmental transformations heralded by colonial mining into clearer perspective, I start by scrutinising various narratives of resource abundance, scarcity and exhaustion, as they exemplify such a ‘colonial attitude towards nature.’

Resource extraction of valuable metals and minerals has a long history of mediating African interactions with the outside world.⁹ From the eighth century CE onwards, Arab caravans regularly crossed the Sahara to obtain gold mined in West Africa. This gold trade was mediated by expansive and centralised states such as Mali and Ghana, referred to as the ‘Land of Gold’.¹⁰ Copper mined in Central Africa likewise facilitated long-distance trade. Copper ingots served as currency between the ninth and nineteenth centuries and they have been found on both the Atlantic and Indian Ocean coasts, where the ingots enabled trade relationships with Portuguese, Arab and British merchants.¹¹ Nonetheless, the colonial period marked a rupture in these interactions. After 1860, Europeans, for the first time, got involved in mining resources. No longer content to rely on African mining and resultant trade flows, British, Belgian and French colonists tried to control resource extraction itself.

In order to make resource extraction profitable to distant metropolitan centres and a worthwhile investment for transnational capital, mining needed to increase in scale. Colonial mineral rushes at the end of the nineteenth and the beginning of the twentieth century therefore propounded misguided and largely overblown narratives

8 Corey Ross, *Ecology and Power in the Age of Empire: Europe and the Transformation of the Tropical World* (Oxford: Oxford University Press, 2017), 422, doi.org/10.1093/acprof:oso/9780199590414.001.0001.

9 Shadreck Chirikure, *Metals in Past Societies: A Global Perspective on Indigenous African Metallurgy* (New York: Springer, 2015), doi.org/10.1007/978-3-319-11641-9.

10 Michael Kevane, ‘Gold Mining and Economic and Social Change in West Africa’, in *The Oxford Handbook of Africa and Economics*, vol. 2: *Policies and Practices*, ed. Célestin Monga and Justin Yifu Lin (Oxford: Oxford University Press, 2015), 340–53.

11 Nicolas Nikis and Alexandre Livingstone Smith, ‘Copper, Trade and Politics: Exchange Networks in Southern Central Africa in the 2nd Millennium CE’, *Journal of Southern African Studies* 43, no. 5 (2017): 895–911, doi.org/10.1080/03057070.2017.1356123.

of ‘discovery’ and ‘abundance’ of resources across Africa.¹² Despite recurrent claims of mineral discovery and untapped wealth, colonial resource extraction overwhelmingly relied on existing African mining practices, labour and expertise. The 1880s gold rush in Ghana, which would not have been possible without centuries of Akan gold mining, is a case in point. Gavin Hilson documents that the earliest European gold mines in Tarkwa and Prestea ‘had been located by Africans, who, by sampling soils and subsequently determining gold content, guided foreigners’ towards mineral deposits.¹³ Yet the level of capitalisation and mechanisation soon distinguished colonial gold mining from existing Akan practices. Between 1892 and 1901, some 400 newly established companies invested £40 million to develop gold mining properties in Ghana.¹⁴ Although many of these investments failed, the gold rushes propped up a myth of resource abundance that propelled a scramble for ‘inexhaustible’ resources. As Robyn d’Avignon explains, ‘[d]reams of turning easy profits from mineralized land motivated European colonization,’ and belief in resource abundance—even if ill-founded—spurred further spatial expansion of imperial rule.¹⁵

European colonialism was, thus, predicated on a logic of extractive expansion and the pronounced acceleration of mining. South Africa’s industrial revolution was turbocharged by the start of diamond mining in Kimberley in 1867 and the rapid development of gold mining in Johannesburg after 1886, both of which ushered in transformative processes of mechanisation, urbanisation and capitalisation.¹⁶ While early colonial mining ventures still relied heavily on manual labour and renewable energy (in the form of draught animals and wood fuel), the completion of railway lines enabled a switch to fossil fuels (coal in particular) and steam engines, leading to spectacular increases in production.¹⁷ Crucially, mining in South Africa always depended on ‘cheap labour’ provided by migrant labourers, some of whom travelled hundreds of kilometres to work in the mines. The scale of mining rapidly increased. By the 1930s, gold mining in Johannesburg had already generated toxic waste dumps containing 5 million tons of heavily mineralised soils. Yet environmental transformation was not just triggered by mining itself, but also by processes of urbanisation that accelerated deforestation and landscape change. Johannesburg grew into a metropolis from scratch, reaching 500,000 inhabitants by 1936 and a million by 1955.¹⁸ Makeshift housing structures were steadily—but never fully—replaced

12 These myths of resource abundance were based on settler imaginations, the rise of news journalism and fierce competition between potential investors. Robyn d’Avignon, *A Ritual Geology: Gold and Subterranean Knowledge in Savanna West Africa* (Durham, NC: Duke University Press, 2022), doi.org/10.1215/9781478023074.

13 Gavin Hilson, ‘Harvesting Mineral Riches: 1000 Years of Gold Mining in Ghana’, *Resources Policy* 28, no. 1–2 (2002): 20, doi.org/10.1016/S0301-4207(03)00002-3.

14 Raymond E. Dumett, *El Dorado in West Africa: The Gold Mining Frontier, African Labor, and Colonial Capitalism* (Athens, OH: Ohio University Press, 1999).

15 d’Avignon, *A Ritual Geology*, 111.

16 Davenport, *Digging Deep*.

17 Jan-Bart Gewald, ‘Of Oxen, Trees, Sardines and Stones: Writing a Multispecies Environmental History of the “Big Hole”, Kimberley South Africa, 1870–1920’, Stellenbosch Institute for Advanced Studies Seminar, 28 July 2022.

18 Iva Peša, ‘A Planetary Anthropocene? Views from Africa’, *Isis* 113, no. 2 (2022): 386–95, doi.org/10.1086/719630.

by brick houses and even tower blocks, while roads, schools, hospitals and markets increasingly populated the urban landscape. South Africa's mining centres developed almost half a century before those in neighbouring countries and the mines' levels of capitalisation long remained unsurpassed. While distinctive, the histories of Kimberley and Johannesburg are significant as these mines served as a testing ground and model for later mining developments in places such as the Central African Copperbelt and Angola.¹⁹

Ross argues that the 'ecological imperialism' that accompanied the European colonisation of Africa was exceptional in its scale and in the far-reaching consequences it had for ecosystems. European colonists tried to tap 'huge resource subsidies in other parts of the world as a means of overcoming the ecological limits that their own territories place[d] on economic growth and commercial activity.'²⁰ This dynamic is illustrated by copper mining in the Belgian Congo: copper exports went from nil in 1910 to 150,000 tons in 1930, reaching 329,000 tons at independence in 1960.²¹ Yet while copper was mined to electrify Belgian households, many Congolese families' homes continued to be lit by candles, even as they could see electricity lines running above their heads. Imperialism, while spatially variegated, spread extractive ecological relations across the globe, enmeshing colonies in a worldwide economic web based on an industrial metabolism.²² While each mine has its own history with specific ecological dynamics, under colonialism the extractive frontier expanded steadily as more and more mines were opened up and existing ones reached ever-increasing depths.

This extractive and spatially expansive process contained an inherent paradox, which the literary scholar Elizabeth Miller captures as 'extraction ecologies': while ecologies presuppose the interrelationality of natural life, extraction entails the removal of crucial elements from the earth, and this causes a derangement of the multispecies and dynamic balance of life.²³ That is why Naomi Klein describes extraction as 'a non-reciprocal, dominance-based relationship with the earth.'²⁴ Resource extraction, in other words, is fundamentally unsustainable, as all mineral resources are inherently finite.²⁵ Seen in this light, it is perhaps unsurprising that trends of acceleration in

19 Miles Larmer, *Living for the City: Social Change and Knowledge Production in the Central African Copperbelt* (Cambridge: Cambridge University Press, 2021), doi.org/10.1017/9781108973120; Todd Cleveland, *Diamonds in the Rough: Corporate Paternalism and African Professionalism on the Mines of Colonial Angola, 1917–1975* (Athens: Ohio University Press, 2015).

20 Ross, *Ecology and Power*, 2.

21 Dácil Juif and Ewout Frankema, 'From Coercion to Compensation: Institutional Responses to Labour Scarcity in the Central African Copperbelt', *Journal of Institutional Economics* 14, no. 2 (2018): 313–43, doi.org/10.1017/S1744137416000345.

22 Ross, *Ecology and Power*, 15.

23 Elizabeth Miller, *Extraction Ecologies and the Literature of the Long Exhaustion* (Princeton, NJ: Princeton University Press, 2021), 4, doi.org/10.23943/princeton/9780691205533.001.0001.

24 Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (New York: Simon & Schuster, 2014), 169.

25 Stuart Kirsch, 'Sustainable Mining', *Dialectical Anthropology* 34 (2010): 87–93, doi.org/10.1007/s10624-009-9113-x.

colonial resource extraction were constantly punctuated by fears of exhaustion. Through a study of British imperial literature, Miller argues that ‘exhaustion emerged as a distinctive trajectory of extraction-based life.’²⁶ Ironically, these fears of resource depletion intensified mining—fostering a ‘grab it while you can’ attitude that generated even more toxicity. The Great Depression which began in 1929—during which work in recently opened copper mines in Northern Rhodesia practically came to a halt and further development was paused—made the volatility of reliance on one or two mineral resources abundantly clear.²⁷ Still, over the course of the 1930s mining quickly ramped up again, surpassing previous production levels. Furthermore, local fears of exhaustion expanded imperial resource frontiers spatially, as industrial capital and its ‘insatiable hunger for natural resources’ sought new natures and opened new sites of extraction, in arid Niger as well as in tropical Madagascar.²⁸ This tendency for continuous spatial movement and expansion in response to fears of exhaustion generated what the decolonial scholar Macarena Gómez-Barris calls ‘the extractive global economy’ under industrial capitalism and imperialism.²⁹ As the historian Mark Stoll explains, these dynamics prompted a vicious circle of ‘capitalism, empire, a rising global economy, intensifying resource use, and greater environmental degradation.’³⁰ How these trends played out in particular localities will be further explored in the next section through a focus on the extractive dynamics of colonial capitalism.

Extractive capitalism

Resource extraction was a critical driver of capitalist expansion across Africa during the twentieth century. Upon the discovery of diamonds and gold, the South African mines immediately attracted major investors—known as the ‘Randlords’—from across the world, including Cecil Rhodes, Alfred Beit and Ernest Oppenheimer. Yet capitalism is also, according to the sociologist Jason Moore, a ‘world-ecology’ of power, which sets off an ‘environment-making revolution.’³¹ Indeed, mines from Guinea to Madagascar have drawn on the countryside for fuel, labour and food, triggering widespread pollution and environmental transformation. The resulting ‘capitalist world-ecology’ rests fundamentally on dynamics of unequal ecological exchange, ‘dependent on finding and co-producing Cheap Natures.’³² This is where

26 Miller, *Extraction Ecologies*, 9.

27 Hyden Munene, ‘Viability and Profitability of Northern Rhodesia (Zambia)’s Copperbelt Mining Companies during the Great Depression, 1929–1939’, *Southern Journal for Contemporary History* 46, no. 1 (2021): 107–36, doi.org/10.18820/24150509/SJCH46.v1.6.

28 Mark Stoll, *Profit: An Environmental History* (Cambridge: Polity, 2023), 168–9.

29 Macarena Gómez-Barris, *The Extractive Zone: Social Ecologies and Decolonial Perspectives* (Durham, NC: Duke University Press, 2017), xvi, doi.org/10.2307/j.ctv1220n3w.

30 Stoll, *Profit*, 84.

31 Jason W. Moore, ‘The Capitalocene, Part I: On the Nature and Origins of Our Ecological Crisis’, *Journal of Peasant Studies* 44, no. 3 (2017): 594, doi.org/10.1080/03066150.2016.1235036.

32 *Ibid.*, 595.

colonialism and capitalism intersect, as imperialism refashioned ‘colonial ecologies in the interest of metropolitan accumulation.’³³ By examining examples of colonial extractive capitalism, this section highlights such unequal dynamics of value making.

The geographers Andreas Malm and Alf Hornborg assert that ‘uneven distribution is a condition for the very existence’ of capitalism.³⁴ While some resources, people and places are valued within capitalist relationships, others are actively devalued. Northern Rhodesia/Zambia’s Smoke Damage (Prohibition) Act of 1934 poignantly illustrates this. Decried only a few years after the start of industrial copper mining in the region, this act stipulated that within a circle of five miles of a copper smelter nobody would be allowed to claim compensation for damage caused by industrial operations, irrespective of the severity of pollution. Representatives of the Rhokana Corporation of Luanshya, one of the largest regional copper producers, argued that land was ‘taken up by the public with the full knowledge of the actual disabilities arising from the proximity of the smelter’ and they asserted that economic advantages could also accrue from ‘proximity to an industrial centre.’³⁵ In 1937, Rhokana claimed that:

the persons owning ... the plots in Luanshya township ... are really not morally entitled to any protection as against the Mining Company for emitting smelter fumes. ... The danger to be guarded against is that some plot holder may [harass] the Mining Company with a view to plundering without mercy. [If a legal claim] resulted in the smelter being closed down even for a short period the result would be harmful to the whole [Northern Rhodesian] Territory and such a state of affairs obviously should not be allowed under any circumstances whatever.³⁶

The core interests of extractive capitalism, namely to maximise production and profit for metropolitan investors, were propped up by the colonial state through such legislation. Wealth generation from resource extraction thus occurred at the cost of labourers, the well-being of their communities and the environment. Extractive capitalism repeatedly sought to externalise environmental costs onto African landscapes and communities, who were thereby made to subsidise the wealth of European and transnational mining and oil businesses.³⁷

33 Jason W. Moore, ‘Imperialism, With & Without Cheap Nature: Climate Crises, World Wars & the Ecology of Liberation’, *Working Papers in World Ecology* 3 (2022): 4.

34 Andreas Malm and Alf Hornborg, ‘The Geology of Mankind? A Critique of the Anthropocene Narrative’, *The Anthropocene Review* 1, No. 1 (2014): 64, doi.org/10.1177/2053019613516291.

35 Smelter Site, Luanshya, 2 June 1936. SEC3/261. National Archives of Zambia (NAZ), Lusaka.

36 Ibid., 28 December 1937.

37 Alexander Dunlap, ‘Wind, Coal, and Copper: The Politics of Land Grabbing, Counterinsurgency, and the Social Engineering of Extraction’, *Globalizations* 17, no. 4 (2020): 661–82, doi.org/10.1080/14747731.2019.1682789.

Over the years, environmental damage from mining and oil drilling—whether in the form of gigantic waste heaps, air pollution or land left infertile—has been disproportionately concentrated in African localities of resource extraction, while profits have flowed to metropolitan centres.³⁸ This form of capitalist accumulation by dispossession relied on the exploitation of what Moore calls the ‘Four Cheaps’: labour power, food, energy and raw materials.³⁹ These four inputs underwrote the expanded reproduction of capital accumulation, but in some cases this literally came at the cost of health and environment. The specific environmental effects of extractive capitalism varied by locality, as did the ensuing vulnerabilities. As Gabrielle Hecht explains, for the notoriously toxic uranium mines across Africa, risk was unevenly distributed. Whereas all miners, from Gabon to Madagascar, engaged in the arduous and backbreaking work of digging up and processing rocks, the decision regarding which workers to assign to dangerous ‘hot spots’—where poor air flow and high temperatures elevated radon exposure—was a political deliberation. In Apartheid South Africa, risk was distributed along racial lines, as ‘white foremen stationed black workers’ in these ‘hot spots’, making them bear the burden of nuclearity (the state of ‘being nuclear’).⁴⁰ In other South African contexts of resource extraction, the risks of working in dusty underground mine environments were similarly transferred to black migrant workers for much of the twentieth century. Jock McCulloch’s work traces the human costs of profitability in South Africa’s gold mines, arguing that the mining industry could for decades underplay the risk of contracting silicosis because migrant mine workers retired to rural areas, where their diseases went unrecorded.⁴¹ Evincing regional forms of environmental inequality, in the Niger Delta, with its erstwhile exceptionally biodiverse mangrove forests, oil drilling all but caused ‘ecocide’.⁴² On the eve of independence, oil was discovered in commercial quantities and exports commenced in 1958. Yet while this oil wealth has enriched foreign multinationals, the Niger Delta communities felt disenfranchised and have been left with devastated ecosystems, where fishing and agricultural yields have steadily declined after repeated oil spills. Commenting on this crude regional inequality, the literary scholar Cajetan Iheka argues that the Nigerian state and the oil companies have failed ‘to create the necessary sociopolitical conditions for [Niger] Delta communities to thrive, even as their region produces the nation’s wealth.’⁴³

38 Iva Peša, ‘Anthropocene Narratives of Living with Resource Extraction in Africa’, *Radical History Review* 145 (2023): 125–38, doi.org/10.1215/01636545-10063818.

39 Moore, *Capitalism in the Web of Life*.

40 Gabrielle Hecht, ‘Africa and the Nuclear World: Labor, Occupational Health, and the Transnational Production of Uranium’, *Comparative Studies in Society and History* 51, no. 4 (2009): 900, doi.org/10.1017/S001041750999017X.

41 Jock McCulloch, *South Africa’s Gold Mines & the Politics of Silicosis* (Woodbridge: James Currey, 2012).

42 Omolade Adunbi, *Oil Wealth and Insurgency in Nigeria* (Bloomington, IN: Indiana University Press, 2015).

43 Cajetan Iheka, *Naturalizing Africa: Ecological Violence, Agency, and Postcolonial Resistance in African Literature* (Cambridge: Cambridge University Press, 2017), 92, doi.org/10.1017/9781108183123.

Reflecting on these persistent inequalities, scholars such as Cedric Robinson argue that capitalism is inherently racial.⁴⁴ Capitalist accumulation, in these views, rests on ‘producing and moving through relations of severe inequality among human groups’ and exploiting the ‘unequal differentiation of human value.’⁴⁵ Jennifer Chibamba Chansa shows that on the Zambian Copperbelt the housing of African mineworkers was sited downwind from sources of toxic sulphur dioxide fumes, whilst the houses of European managers were located upwind from the smelter, in locations better shielded from the fumes.⁴⁶ Such differentiation proved deliberate and structural, and that is why the geographer Laura Pulido asserts that ‘environmental racism is ... a function of racial capitalism.’⁴⁷ Imperialism, by enabling ‘the planetary expansion of capitalism’, was a pivotal juncture in this respect.⁴⁸ The constant search for new sites of extraction and ‘cheap natures’ onto which to devolve environmental costs caused profound ecological violence throughout colonial Africa. Julie Livingston calls this capitalist dynamic one of ‘self-devouring growth’ that ‘obscures the destruction it portends.’⁴⁹ Consumption-driven growth appropriates resources and produces waste in inherently unsustainable ways, causing ‘growth-led planetary devastation.’⁵⁰ The following section examines how people in localities of resource extraction reside among ‘the by-products and the wastelands of growth.’⁵¹

Waste and difference

Waste is foundational to extractive industries, to such an extent that mining has been typified as a waste management rather than a resource extraction industry.⁵² Extractive industries stand out through the sheer quantities of waste they produce, as well as the immobility of this waste. To extract only a few grams of valuable minerals and metals, tons of rock need to be mined and disposed of. Heavily mineralised and often toxic mining waste thus literally reshapes landscapes around extractive sites. In Zambia, Kitwe’s ‘Black Mountain’, a copper mining dump that gradually grew with residue from the city’s smelter between 1931 and 2009, is estimated to contain 20 million

44 Cedric J. Robinson, *Black Marxism: The Making of the Black Radical Tradition* (London: Zed Books, 1983); Laura Pulido, ‘Geographies of Race and Ethnicity II: Environmental Racism and Racial Capitalism’, *Progress in Human Geography* 41, no. 4 (2016): 524–33, doi.org/10.1177/0309132516646495.

45 Jodi Melamed, ‘Racial Capitalism’, *Critical Ethnic Studies* 1, no. 1 (2015): 77, doi.org/10.5749/jcriteethstud.1.1.0076.

46 Jennifer Chibamba Chansa, ‘State, Mining Companies and Communities: A History of Environmental Pollution and Regulation in the Zambian Copperbelts (1964 to the Present) (PhD diss, University of the Free State, Bloemfontein, 2021).

47 Pulido, ‘Geographies of Race and Ethnicity’, 525.

48 Emma Gattey, ‘Global Histories of Empire and Climate in the Anthropocene’, *History Compass* 19, no. 8 (2021): 2, doi.org/10.1111/hic3.12683.

49 Julie Livingston, *Self-Devouring Growth: A Planetary Parable* (Durham, NC: Duke University Press, 2019), 5, doi.org/10.1215/9781478007005.

50 *Ibid.*, 6.

51 *Ibid.*, 7.

52 Robrecht Declercq, Duncan Money and Hans Otto Frøland, eds., *Born with a Copper Spoon: A Global History of Copper, 1830–1980* (Vancouver: University of British Columbia Press, 2022), 10, doi.org/10.59962/9780774864954.

tons of toxic ‘waste’ material.⁵³ Taken together, the waste generated through resource extraction is such that it has ‘imprint[ed] signals on to the geological record’ that will endure indefinitely. According to members of the Anthropocene Working Group, resource extraction industries are anthropogenic activities with ‘no analogue in the Earth’s 4.6 billion-year history.’⁵⁴ Vinay Gidwani connects these planetary dynamics to historical processes, in particular those pertaining to capitalism, colonialism and racialisation. In this respect, critical discard studies interpret waste as ‘capitalism’s dialectical frontier: animating its relentless drive for profit, subtending its racial hierarchies, and through its unevenly accumulating burdens, throwing planetary ecosystems and vulnerable lives into mounting peril.’⁵⁵

Whereas waste generates ‘toxic ecologies made of contaminating substances’, it also involves ‘socio-ecological relationships’ that ‘(re)produce exclusion and inequalities’ along lines of gender, class and race.⁵⁶ Focusing on South Africa’s gold mining dumps, Hecht calls these ‘wasting’ relationships a form of ‘residual governance’, which ‘treats people and places as waste and wastelands.’⁵⁷ Marco Armiero, in his provocative book on the ‘Wasteocene’, explains how through these ‘wasting’ relationships the ‘extractivist regime produces the ultimate other, disposable places and people to be exploited up to their exhaustion’ to the benefit of wealth and profit elsewhere.⁵⁸ Yet how do the dynamics of waste and ‘wasting’ relationships play out in African localities of resource extraction? The African continent, Iheka claims, is ‘an important site to explore environmental degradation given its treatment as savage and brutish in the colonial imaginary and as waste or dump site in the current neoliberal order.’⁵⁹ Two examples from literary works, one from Johannesburg and the other from the Niger Delta, will illustrate how waste produces wealth through othering and exclusion, by extracting ‘profits from the very life of humans and ecosystems.’⁶⁰

53 Leonce Dusengemungu, Benjamin Mubemba and Cousins Gwanama, ‘Evaluation of Heavy Metal Contamination in Copper Mine Tailing Soils of Kitwe and Mufulira, Zambia, for Reclamation Prospects’, *Scientific Reports* 12 (2022): 11283, doi.org/10.1038/s41598-022-15458-2.

54 Jan Zalasiewicz, Colin N. Waters and Mark Williams, ‘Human Bioturbation, and the Subterranean Landscape of the Anthropocene’, *Anthropocene* 6 (2014): 4–5, doi.org/10.1016/j.ancene.2014.07.002.

55 Vinay Gidwani, ‘The Accumulation of Capital as the Accumulation of Waste: Nine Propositions’, *Commodity Frontiers* 4 (2022): 1; Max Liboiron and Josh Lepawsky, *Discard Studies: Wasting, Systems, and Power* (Cambridge, MA: MIT Press, 2022), doi.org/10.7551/mitpress/12442.001.0001.

56 Marco Armiero, *Wasteocene: Stories from the Global Dump* (Cambridge: Cambridge University Press, 2021), 1, doi.org/10.1017/9781108920322.

57 Gabrielle Hecht, *Residual Governance: How South Africa Foretells Planetary Futures* (Durham, NC: Duke University Press, 2023).

58 Armiero, *Wasteocene*, 29.

59 Iheka, *Naturalizing Africa*, 13.

60 Armiero, *Wasteocene*, 30.



Figure 1. Mine dump in Diepkloof, Johannesburg.

Source: Photograph by Madoda Mkhobeni.

In 1905, mining in Johannesburg tapped into some of the richest gold-bearing deposits. Nevertheless, even at that time only 22 grams of gold were recovered per ton of extracted rock.⁶¹ Consequently, gold mining generated enormous waste dumps on which the megacity of Johannesburg has literally been built (see Figure 1). The Nobel Prize-winning author Nadine Gordimer points out that ‘the Witwatersrand created its own landscape out of waste and water brought from underground in the process of deep-level mining.’⁶² The incidence of people and places most affected by this toxic waste, containing lethal heavy metals such as arsenic, lead and even uranium, was profoundly racialised. For the surrounding residents, airborne, water and soil pollution from the dump sites generates severe health risks, including asthma, tuberculosis, cancer and birth defects. They are predominantly low-income black populations, while high-income white suburbs are generally located at a greater distance from toxic waste sites.⁶³ Peter Abrahams made these ‘wasting relationships [that] produce profit from exploitation and othering’⁶⁴ the subject of his 1938 poem ‘Fancies idle (iii)’. Exhibiting militant race consciousness, he portrays the ‘[m]ine dumps of the Rand’ that are ‘[l]ike the black earth, wind-swept and touched by time’. The toxic mountains tear apart bodies and environments:

61 Hecht, *Residual Governance*.

62 David Goldblatt and Nadine Gordimer, *On the Mines*, revised ed. (Göttingen: Steidl, 2012).

63 Peša, ‘Anthropocene Narratives’; Hecht, *Residual Governance*.

64 Armiero, *The Wasteocene*, 3.

These pyramids speak lungs,
Tortured and touched with the coat of death,
Daily piling up layer upon layer
And wrecking the soul in a lung tearing cough,
Hour by hour with the passing of the night.
These pyramids speak bitterness
Of black men,
Thousands of black men, wrenched from their mother-earth,
And turned to gold-makers for the wealth of the earth
That grant them not the right of human thought.⁶⁵

Commenting on disease, environmental transformation and the racial inequalities of capitalist accumulation by dispossession, these verses underscore Pulido's arguments about global environmental injustice: resource extraction industries are able to operate 'despite a mounting death toll', precisely because 'it is disproportionately people of color who are bearing the burden of industrial pollution.'⁶⁶ As the following section will show, these 'wasting' relationships were reproduced over the course of the twentieth century, spilling their toxic effects into the present.

In Nigeria, oil extraction, an even more environmentally devastating activity than gold mining, has prompted copious literary commentary.⁶⁷ One example will illustrate the types of 'wasting' relationships oil engendered in the Niger Delta. Nnedi Okorafor, in her 2011 short story 'Spider the Artist', posits that decades-long oil extraction transformed Niger Delta communities into 'pipeline people'. The protagonist reflects on how pollution and environmental devastation have prompted feelings of rage that could translate into violent mobilisation:

The fish, shrimps and crayfish in the creeks were dying. Drinking the water shriveled women's wombs and eventually made men urinate blood ... Cassava and yam farms yielded less and less each year. The air left your skin dirty and smelled like something preparing to die. In some places, it was always daytime because of the noisy gas flares ... My husband was a drunk, like too many of the members of the Niger Delta People's Movement. It was how they all controlled their anger and feelings of helplessness.⁶⁸

This fictional account brings out the multispecies entanglements of waste.⁶⁹ Oil spills and pipeline pollution do not affect just humans, but entire communities and ecosystems, encompassing air, water, animals and crops. Waste, thus, impacts life-bearing capacities.⁷⁰ That waste evokes potent political reactions is therefore

65 Peter Abrahams, *A Black Man Speaks of Freedom: Poems* (Durban: Universal Printing Works, 1940), 15.

66 Pulido, 'Geographies of Race and Ethnicity', 530.

67 See Jennifer Wenzel, *The Disposition of Nature: Environmental Crisis and World Literature* (New York: Fordham University Press, 2019), doi.org/10.5422/fordham/9780823286782.001.0001.

68 Nnedi Okorafor, 'Spider the Artist', *Lightspeed Magazine* 10 (2011), www.lightspeedmagazine.com/fiction/spider-the-artist, accessed 10 October 2023.

69 Iheka, *Naturalizing Africa*, 87.

70 Liboiron and Lepawsky, *Discard Studies*.

unsurprising. The Niger Delta has given rise to a number of militant groups that have addressed the region's environmental degradation, such as the Movement for the Emancipation of the Niger Delta. Such groups insist on politicising waste and environmental problems within frameworks that call for environmental justice. Failing to clean up after an oil spill, in this context, is intertwined with issues of socioeconomic marginalisation and Niger Delta communities' relationships with the Nigerian state.⁷¹ Iheka comments on how these 'wasting' relationships are reproduced through a perverse and persistent form of coloniality. Through gas flaring and oil spills, multinational oil companies today continue their 'colonial disregard and contempt for the environment in the communities where they operate.'⁷²

Given its multivalent meanings and effects, it is crucial to problematise the notion of toxicity. Although mining waste and oil spills generate lethal levels of toxicity that indisputably endanger plant life, aquatic well-being and human health, manifestations of toxicity are mediated by regimes of (im)perceptibility.⁷³ The politics of knowledge production, particularly in colonial contexts of deep power imbalances, often involved deliberately obscuring awareness of toxicity and hazards. Toxicity is, thus, embedded within power systems: whereas it can disrupt 'existing orders and ways of life', it can also enable and maintain others.⁷⁴ How is toxicity measured, perceived and defined in such contested settings? While lead levels in the soil around mining sites can be measured in a laboratory, Hecht's research has demonstrated that even blood test results showing radiation levels in mineworkers cannot be interpreted in a straightforward manner. In many colonial and postcolonial contexts, permissible thresholds of toxicity were differentiated along lines of race, class and gender: they were not the same for a white supervisor as for a Congolese underground mineworker.⁷⁵ Moreover, there are various ways of experiencing and knowing toxicity. Embodied and sensory knowledge complements, but can sometimes also challenge, scientific measurements. Toxic spillages that kill tomato plants do not need to be measured in a laboratory, while a mother senses that her child's asthma is caused by the nearby smelter's toxic fumes even without consulting a doctor. Different forms of knowledge production about toxicity can thus exist next to each other.

Attentiveness to the multiple ways in which toxicity can be measured, perceived and defined also underscores the expansive boundaries of toxicity. Extending beyond health and environment, toxicity impacts on all spheres of life and well-being. The disruptive effects of toxicity on social relationships, community reproduction and ways of life have been the subject of much social and artistic commentary, as in

71 Adunbi, *Oil Wealth and Insurgency*.

72 Iheka, *Naturalizing Africa*, 13.

73 Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (Durham, NC: Duke University Press, 2006), doi.org/10.1515/9780822387831.

74 Max Liboiron, Manuel Tironi and Nerea Calvillo, 'Toxic Politics: Acting in a Permanently Polluted World', *Social Studies of Science* 48, no. 3 (2018): 331, doi.org/10.1177/0306312718783087.

75 Hecht, 'Africa and the Nuclear World'.

Okorafor's work. Literary works dealing with resource extraction are filled with failed marriage plots and childless marriages. This signals that environmental and social health are intertwined, as toxicity can imperil social reproduction.⁷⁶ Similarly, Sammy Baloji's photographic artworks depicting the Congolese region of Katanga poignantly comment on the ruination caused by copper mining, documenting both colonial labour exploitation and dashed dreams of modernity in an industrial wasteland.⁷⁷ These examples suggest that while toxicity is multifaceted and sometimes difficult to define, its effects are far-reaching, influencing not only environmental and human health, but also social and community well-being. Analyses of toxicity therefore need to take seriously not only scientific knowledge, but also the embodied and sensory means of experiencing toxicity's pernicious and long-lasting effects. The final section asks how these histories of extractive acceleration and exhaustion, capitalism and waste add up to the toxic coloniality of resource extraction in Africa.

Toxic aftermaths: Coloniality and decolonial alternatives

More than half the greenhouse gases currently in the atmosphere have been emitted since 1990. With the apotheosis of the Anthropocene's 'Great Acceleration', resource extraction has also ramped up.⁷⁸ Trends towards a 'green transition' have hardly alleviated colonial and capitalist environmental inequalities. Indeed, the demand for metals and rare earth minerals has deepened a 'decarbonisation divide', whereby British and American consumers benefit from seemingly reduced greenhouse gas emissions due to solar panels and electric vehicles, whereas mining communities such as those in the Democratic Republic of the Congo are left to deal with heightened amounts of toxic waste.⁷⁹ In order to unpack these ongoing processes of coloniality, I provide examples of capitalism, waste and conflict minerals, which illustrate the importance of colonial histories for understanding contemporary toxicity in sites of resource extraction.

The trend towards neoliberalism, accelerated by structural adjustment programs in the 1980s, has promoted free market policies that have decreased the decision-making power of state agencies across Africa. The devastating effects this has had on labour and social security have been summarised as generating 'permanent precarity'.⁸⁰

76 Miller, *Extraction Ecologies*.

77 Sammy Baloji, *Mémoire* (2006).

78 John R. McNeill and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Harvard University Press, 2016), doi.org/10.2307/j.ctvjf9wcc.

79 Benjamin K. Sovacool et al., 'The Decarbonisation Divide: Contextualizing Landscapes of Low-Carbon Exploitation and Toxicity in Africa', *Global Environmental Change* 60 (2020): 102028, doi.org/10.1016/j.gloenvcha.2019.102028.

80 Miles Larmer, 'Permanent Precarity: Capital and Labour in the Central African Copperbelt', *Labor History* 58, no. 2 (2017): 170–84, doi.org/10.1080/0023656X.2017.1298712.

What is less often highlighted is how neoliberalism enabled the continuation of certain aspects of colonial and early postcolonial extractive capitalism that tended to favour production and profit over environmental and community well-being. When discussing pollution abatement measures in the copper mining industry in the 1980s, management staff of the Zambia Consolidated Copper Mines asserted that

in combatting both air and water pollution, the mining industry has to keep in mind its unique role in the national economy ... the industry has a duty to restrict its expenditure on the non-productive, usually costly, means of controlling pollutants so that the nation is not needlessly deprived of essential revenue.⁸¹

And even once mining companies were privatised in the late 1990s and early 2000s, the tokenistic rhetoric of ‘green mining’ continued to emphasise production and profit as primary goals.⁸² In 1997, one of the region’s main copper smelters still had ‘no sulphur dioxide abatement facility’, which according to newspaper commentaries resulted in ‘danger to lives of people and animals.’⁸³ Yet enforcing stricter air pollution standards could have negative effects on the copper mining business. One journalist from the *Zambia Daily Mail*, for instance, favoured profit over environmental regulation, as ‘the economic life of the nation needs to continue.’⁸⁴ This example illustrates how, in some cases, colonial extractive capitalism, with its focus on accelerating production and profit at the cost of environmental well-being and deepening racial inequalities, could be carried over into more recent times, justifying environmentally destructive patterns of resource extraction that advance the contemporary climate crisis. As Jeffrey Insko astutely observes, ‘[c]apitalism’s insatiable drive toward expansion and growth, its exploitation of material resources, and its need for “cheap things,” ... have created a world so deeply dependent upon resource extraction that it seems almost impossible to disentangle ourselves from it.’⁸⁵

In some cases toxic coloniality does not merely endure, it accelerates and deepens. Environmental damage is not linear, as historical waste and pollution can bioaccumulate and transform into unpredictable and increasingly toxic substances.⁸⁶ The acid mine drainage (AMD) problem in South Africa, particularly acute in Johannesburg’s now largely inoperative gold mines, is exemplary in this respect. The environmental activist Mariette Liefferink has called AMD the ‘single most significant threat to South Africa’s

81 Pollution writings, 1980s. 5.14.5B. Zambia Consolidated Copper Mines Archives (ZCCM), Ndola.

82 Iva Peša, ‘Between Waste and Profit: Environmental Values on the Central African Copperbelt’, *The Extractive Industries and Society* 8 (2021): 100793, doi.org/10.1016/j.exis.2020.08.004.

83 Environmental Management Services, Mufulira, 1997. 8.1.2F, Box 4. ZCCM.

84 *Zambia Daily Mail*, 7 July 1993.

85 Jeffrey Insko, ‘Extraction’, *The Cambridge Companion to Environmental Humanities*, ed. Jeffrey Jerome Cohen and Stephanie Foote (Cambridge: Cambridge University Press, 2021), 171, doi.org/10.1017/9781009039369.014.

86 Caitlynn Beckett and Arn Keeling, ‘Rethinking Remediation: Mine Reclamation, Environmental Justice, and Relations of Care’, *Local Environment* 24, no. 3 (2019): 216–30, doi.org/10.1080/13549839.2018.1557127.

environment.⁸⁷ AMD occurs in defunct mines, when water is no longer pumped from underground as part of daily operations. As water fills the shafts, it turns highly acidic and heavy metals from the mineralised rocks dissolve into it. When AMD mixes with groundwater, it becomes toxic to varying degrees.⁸⁸ Pollution and toxicity have a clear temporal dynamic, as the environmental scientist Terence McCarthy has remarked. People in Johannesburg today are facing the consequences—toxic drinking water, polluted rivers and perhaps more—of the choices made decades ago when gold mining was at its peak. As the AMD problem is likely to become more severe over the coming decades, what will happen to future generations? Will they be made to pay the price for resource extraction from which they never directly benefited?⁸⁹ How will Johannesburg's residents develop 'arts of living on a damaged planet'?⁹⁰ Through toxicity and pollution, the coloniality of resource extraction thus inexorably projects itself into the future.

The example of 'conflict minerals' further illustrates how toxic coloniality and extractive capitalism continue to affect contemporary localities of resource extraction. Today's digital economy fundamentally depends on mined resources. Smartphones, laptops and other battery-powered devices contain rare elements, such as cobalt, tungsten and tantalum, some of which can only be found in mines on the African continent. Many of these resources are extracted from artisanal mines, sometimes by employing child labour and other highly exploitative labour arrangements. Contests over access to these 'conflict minerals' have spurred debates about the relationship between natural resources and violent conflict.⁹¹ Do histories of coloniality contribute to contemporary conflicts? James Smith has traced how, in the eastern parts of the Democratic Republic of the Congo, mining practices build on 'decades of violent colonial and postcolonial war and exclusion.'⁹² Congolese 'cycles of violence and war' over natural resources have certainly developed from complex histories, and stem from highly exploitative colonial and capitalist legacies.⁹³ The many wars since the 1990s have also had profound environmental effects. One international media report portrays how 'the violent rush to extract cobalt is unleashing a new cycle of misery and foreign domination', causing high levels of birth defects and cancers, and polluting agricultural fields and waterways beyond repair.⁹⁴ In the context of the Niger Delta,

87 Brindaveni Naidoo, 'Acid Mine Drainage: Single Most Significant Threat to SA's Environment', *Mining Weekly*, 8 May 2009.

88 Terence S. McCarthy, 'The Impact of Acid Mine Drainage in South Africa', *South African Journal of Science* 107, no. 5/6 (2011), doi.org/10.4102/sajs.v107i5/6.712.

89 Ibid.

90 Anna Lowenhaupt Tsing et al., eds, *Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene* (Minneapolis, MN: University of Minnesota Press, 2017).

91 Christoph N. Vogel, *Conflict Minerals Inc.: War, Profit and White Saviourism in Eastern Congo* (London: Oxford University Press, 2021).

92 James H. Smith, *The Eyes of the World: Mining the Digital Age in the Eastern DR Congo* (Chicago: University of Chicago Press, 2021), 3, doi.org/10.7208/chicago/9780226816050.001.0001.

93 Vogel, *Conflict Minerals Inc.*, 28–29.

94 Michael Davie, 'Blood Cobalt', *ABC*, 23 February 2022, www.abc.net.au/news/2022-02-24/cobalt-mining-in-the-congo-green-energy/100802588, accessed 10 October 2023.

Omolade Adunbi argues that persistent violent conflicts over oil have brought about ‘the social death of the environment.’⁹⁵ Whereas Niger Delta communities long perceived the environment as a site of promise and development, the realisation of oil’s promise through capitalist profit maximisation entailed self-devouring growth that exploited the environment irreparably. Considering coloniality and extractive capitalism is thus crucial for comprehending the relationship between resource extraction, violent conflict and deleterious environmental dynamics.

Colonial legacies abound in African localities of resource extraction, as the examples in this article have started to show. Colonial power imbalances enabled waste to be generated without paying attention to remediation—resulting in giant toxic waste dumps and ‘sacrifice zones’ surrounding mines and oil wells. As these ongoing relationships of toxic coloniality are foundational to the climate crisis, it is important to ask whether we can delink knowledge and power ‘from the colonial matrix in order to open up decolonial options’.⁹⁶ To this end, the decolonial scholar Lesley Green invites us to build different ‘ecologies of knowledge’, not premised on narrow and ecologically harmful understandings of technical efficiency, economic profitability and exclusionary science. Green argues that decolonial knowledge production can challenge a world built on ‘extractions, extinctions, and expulsions’, grounded in an emphasis on relationality, care and considerations of justice instead.⁹⁷ In this respect, environmental activists such as Godfrey Makomene and Mariette Liefferink in South Africa and Fyneface Dumnamene and Morris Alagoa in Nigeria are calling on mining and petroleum enterprises to consider questions of remediation from the outset, by involving those who live around toxic mine dumps and oil wells in their maintenance and consulting them on issues of safety. Yet concerted efforts are needed to counter deep-rooted patterns of extractive capitalism. To upend the power relations that have engendered toxic coloniality, Sultana recommends that we actively nurture revolutionary potentiality, alternative possibilities, ‘worldmaking’ and critical hope.⁹⁸ Such an approach, which closely examines oppressive colonial histories and their lasting capitalist legacies, might reveal that ‘resistance and alternatives to extraction and extractivism have been with us all along.’⁹⁹

95 Omolade Adunbi, *Enclaves of Exception: Special Economic Zones and Extractive Practices in Nigeria* (Bloomington, IN: Indiana University Press, 2022), 172, doi.org/10.2307/j.ctv22fqbf1.

96 Walter Dignolo, *The Darker Side of Western Modernity: Global Futures, Decolonial Options* (Durham, NC: Duke University Press, 2011), 9, doi.org/10.1215/9780822394501.

97 Lesley Green, *Rock I Water I Life: Ecology & Humanities for a Decolonial South Africa* (Durham, NC: Duke University Press, 2020), 186 and 218, doi.org/10.1215/9781478004615.

98 Sultana, ‘The Unbearable Heaviness of Climate Coloniality’, 2.

99 Insko, ‘Extraction’, 182.

Conclusion

This article has sought to bring together global literature on the environmental history of extractivism with examples of mining and oil drilling from across the African continent. In doing so, it has explored how a colonial regime of extraction was built, premised on trends of acceleration and expansion, extractive capitalism and toxic waste. Taken together, these trends constitute a form of 'toxic coloniality' that has permeated into the present. The wastelands and 'sacrifice zones' surrounding mining sites and oil wells today are legacies of such toxic coloniality. In order to address the climate crisis, different epistemologies and a new ecopolitics built around notions of relationality, care and justice are necessary.¹⁰⁰ Yet such alternatives would first need to up-end deep-rooted patterns of extractive capitalism and environmental inequality. Comprehending the multifarious ways in which toxic coloniality continues to impact ecologies and communities is a crucial first step towards addressing the environmental legacies of historical and ongoing extraction across the African continent.

100 Green, *Rock I Water I Life*, 215 and 218.

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