From the Mineral Cabinet to Space Travel: Exploring (De) colonial Temporalities in Belgium's Royal Museum of Central Africa

*Alana Osbourne**

Abstract

Taking Belgium's Royal Museum of Central Africa's mineral cabinet as a point of departure, I probe the entanglements of inorganic matter, coloniality, and mining. Through the museum, and by thinking about minerality as a field that connects intra- and extra-terrestrial interests, my research unpacks how colonial logics permeate relationships between earthbound and outer spaces. From this vantage point, I investigate how the calls for decolonial practices that resonate within museum studies relate to futurities that are embroiled in imperial logics of mining and space conquest.

Keywords: museum; minerals; colonialism; outer space

Introduction

> Columbite-Tantalite $FeNb_2O_6$-$FeTa_60_6$
>
> (Caption describing an exhibited specimen of Tantalum in the Africa Museum's Mineral Cabinet)

> To think of these stars that you see overhead at night, these vast worlds which we can never reach. I would annex the planets if I could; I often think of that.
>
> Cecil Rhodes (1902: 190)

Despite their apparent dissimilarity, the two quotations above represent key steps along the path that this article takes as it thinks through possibilities for decolonizing museum collections. Probing this prospect by way of a mineral cabinet located in the Belgian Royal Museum for Central Africa (RMCA), this article links the inorganic material on display to geological archives, and to contemporary outer space travel. It shows how the extraction of minerals and ores, samples of which are exhibited in the cabinet, was a crucial aspect of Belgium's colonial enterprise in the Congo. The article then proceeds to highlight how some of these minerals – such as tantalum – are also essential to the development of technologies used by the space industry, pointing to the fact that while digging deep into our planet's bedrock was essential for building colonial structures, it also enables current imperialistic expansion past the earth's orbit. Connecting the inorganic matter exhibited at the RMCA to both colonial archives and space conquest emphasizes how rocks are imbricated in complex histories and permanencies rooted in extractive practices. This conceptual move re-situates conversations about the decolonization of geological collections in relation to broader temporalities in which

extraction and imperial logics are determining factors.

Built in 1898 by King Leopold II as a prolongation of a large world's fair, the RMCA's initial remit was to showcase the wonders of Africa's heartland and to extol the 'civilizing mission' of Leopold's' colonial ventures in the Belgian Congo (Verbergt 2020: 144). As a public institution it ordered and displayed materials collected in Central Africa, served as an information hub for governing the colony, and offered a rallying point for promoting Belgian prospecting enterprises that continue to operate in the region today (Rubbers 2013; Makori 2017). At the turn of the millennium, as European cultural institutions were grappling with their colonial inheritances, a project to restore and update the museum was put forward (Gryseels et al. 2005). Set in motion in 2013, those involved in the costly renewals wrestled with conversations about the possibility of decolonizing heritage sites, which resonated with wider political debates about the country's past (Demart 2020; Van Beurden 2017). The controversial renovations, which I will expand upon shortly, point to the fact that the decolonization of museums is a thorny process in which issues of representation and narrativization matter. If a large share of contemporary museum studies have highlighted the difficulty of decolonizing museums (Lonetree 2012; Procter 2020), with some authors warning against institutional co-optation of the term (Kassim 2017), I will zoom in on the role of geology in these processes.[1] Extending the spatiality and temporality through which questions of coloniality and museology are often broached I ask: how can the RMCA imagine a decolonized museology considering how the colonial logics of resource extractivism extend into the future and beyond Earth?

While this article may appear to connect disparate elements, I suggest that paying attention to connections that emerge through proximity, rather than through linear causal links, reveals entanglements between objects and processes often kept apart in scholarly work (M'Charek 2023). Inspired by Belgian philosopher Isabelle Stengers' notion of the "art of paying attention" (Savransky and Stengers 2018:136), anthropologist Amade M'Charek provides an example of the interactions that emerge through the practice of careful witnessing. In her essay, she connects phosphorus, sponges, and the dead bodies of migrants who have attempted to cross the Mediterranean (2023). Considering these relations, M'Charek reframes current flows of migration from North Africa to Europe as an issue of chronicity, in which processes are (re)produced through ongoing colonial power dynamics rather than through the shorter temporal framework implied by the understanding of a migration 'crisis'. Adopting a similar perspective allows us to shift from a conversation about the decolonization of European museums as an event in time, to highlighting the colonial cyclicality and enduring beliefs in which museology is imbricated.

In the RMCA's geology room, these connections are not explicitly laid out: while colonial history is mentioned, it only serves as a historical backdrop for the rocks' staging. No direct references are made to the aerospace industry. Consequently, the task of identifying the connecions between rocks, colonialism, and space requires filling in those omissions. Mobilizing Stengers' 'art of paying attention' in order to identify the mineral cabinet's narrative gaps, the methodology deployed in this article entails redressing silences and absences. To this end, I draw on the archives in the Université Libre de Bruxelles' library, on informal conversations with curators, as well as a digital map that indicates the locations of contemporary ores in the Democratic Republic of the Congo (DRC). Whilst I draw on factual – rather than fictional – material, my practice is reminiscent of the 'critical fabulation' (Hartman 2008) deployed by scholars whose speculative narratives recount the lived experiences and humanity of Black lives otherwise silenced in, and by, archives (Carrington 2016; Tinsley 2008; Wright 2016). Within the RMCA's geology exhibition, I highlight how the exploitation of Congolese people and lands that enabled the museum display are ignored, and argue that this act of silencing ultimately enables the re-mobilization of colonial logics and vernaculars towards new projects of colonial expansion into outer space.

The New Museum

From its inception, the RMCA (also known as the Africa Museum) was propagandist as much as it was commercial; it served to legitimize the Belgian sovereign's self-proclaimed 'civilizing' presence in the Congo, and to showcase the immense economic promise of this

vast territory, in order to attract both public support and investors (Cornelis 2002; Stanard 2011; Van Beurden 2021: 320). The museum, which houses ethnographic objects, artefacts, zoological specimens, wood samples, geological matter, and historical archives in the form of texts, photographs, and films, was – and is still – considered the world's largest collection with respect to Central Africa (Gryseels, Landry, and Claessens 2005: 640).

During the late 1980s and 1990s an intensification of the debate about the representation of formerly colonized peoples created an incentive fo museums to rethink their image. Informed by the work of critical and poststructuralist theorists such as Bourdieu, Foucault, and Derrida, and accompanied by the postcolonial writings of Spivak and Bhabha (amongst others), a 'new museology' emerged (Vergo 1989). This intellectual current prompted cultural institutions to address the exclusionary, racist, ethnocentric, and nationalistic ideologies that permeated their curatorial practices. At the same time, it explored the role of museums within Western colonialism and imperialism (Barringer and Flynn 1998). As a representational critique, this movement questioned the museum's legitimacy as the acquirer, holder, and caretaker of artefacts forcefully taken from other geographical contexts, and confronted the ethics of how objects were narrativized and displayed (Merriman 2020; Simpson 1996). This sparked a wave of museum renovations and has prompted continuing conversations (see, for example, Appadurai 2020; Hicks 2020; Modest 2019; von Oswals and Tinuis 2020). In Belgium, these discussions compounded with existing debates about the decolonization of public institutions, and resulted in the 2006 approval of a proposal to refurbish the RMCA. The Africa Museum closed its doors in late 2013, reopening again in 2019, after a five-year, EUR 66.8 million makeover. As the new website explains, the main ambition of the transformation was to "present a contemporary and decolonised vision of Africa in a building which had been designed as a colonial museum".[2]

To counter the museum's colonial architecture, visitors no longer enter through the grandiose marble rotunda that served as the building's main entrance. They access the museum through a new pavilion entrance connected to the old edifice through a vast underground passageway. In the subterranean corridor, where silver lettering that reads 'everything passes except the past' adorns white walls, sightseers amble beside a seventy-two feet long dugout canoe. They then walk by a windowless room in which sculptures that used to be positioned around the museum are gathered. These sculptures, which depict Congolese men and women as savages or uncivilized, offer a sample of the racist colonial imagery that permeated the museum. The display in this underground space is evocative of a graveyard, suggesting that the museum has parted ways with – or buried – this derogatory narrative. From these catacombs, visitors emerge into the refurbished museum, as if entering a refreshed perspective on the old building, and on Central Africa more broadly. In addition to the new welcome pavilion and underground passage, notable renovations to the original structure comprise a 'Colonial History and Independence' room that focuses on the colonial administration in Belgian Congo and partially displays its brutal executive regime. A new 'Afropea' hall showcases self-representations of Congolese, Burundian, and Rwandan diasporas, while throughout the museum, contemporary artists were invited to offer a counternarrative to the colonial frescoes, commemorative plaques, and sculptures embedded in the building's architecture.

While these additions attempt to grapple with the weight of Belgian colonialism, they offer only a very tentative challenge to the narrative initially communicated by the museum (Miller 2019; Van Bockhaven 2019; Sullivan et al 2020); visitors are not confronted with a clear curatorial vision statement that repositions the museum's renovations vis-à-vis wider debates about colonial institutions (DeBlock 2019: 277). As a result, critical engagements with the museum's historical role as a propagandist tool emerge only disparately (Amponsah 2020; Roger 2006), and do little to centre the voices of the Congolese, Rwandan, and Burundian diasporas (Robert 2017; Wetsi Mpoma 2017). Reporting the position of Vicky Van Bockhaven, an ex-curator at the RMCA, Helena Mayné explains that "simply put, the museum's philosophy and curatorial approach lacks a homogeneous commitment and strong mobilization of resources to achieve a decolonized museology" (Mayné 2021: 5).

Part of the fragmentation apparent in the museum's curatorial storyline can be ascribed to the renovation process itself. Indeed, each of the museum's thematic rooms involved pairing up curators with a team of scientists specializing in the discipline of the display – from the

zoological exhibits to the ethnographic galleries showcasing cultural artefacts or languages. This entailed collaborations between museum curators who were sometimes unaccustomed to the intricacies of a room's scope, and scientists who were potentially unaware of the subtleties of curatorial practice. As a result, each room contains compromises between the specificities of the thematic display and the overall vision for the museum's voice and experience.

The Old Cabinet

While most rooms reveal cautious forms of curatorial self-reflection, the 'mineral cabinet' seems untouched by conversations about representation and coloniality. Located in the middle of the building's east wing, right after the taxidermied animals found in the 'crocodile room', the mineral cabinet's walls are lined with antique curiosity cupboards displaying stones and ores. A century-old ceiling features exoticizing depictions of African lands, so that a beautiful scene unfolds overhead while visitors walk among the rock displays, metaphorically wading through the grounds from which the geological samples were extracted (see Fig. 1). Over the years, the mineral collection shifted locations several times and regained its initial position only after the renovations. The ceilings, then, are not an intentional part of the room's redesign; however, left unchanged, they cast an old narrative over the current collection – that of fertile unpopulated African ground, a *terra nullius* ripe for extraction.

Figure 1: Minerals on display at the RMCA. Photo by the author.

The mineral cabinet is organized according to different elements. In the centre of the room, a display with larger rock samples details the formation of geological resources, emphasizing the billion-year-old processes of sedimentation in the Congo River Basin area. Each rock is accompanied by minimal captions that detail its chemical composition (such as the caption cited in the opening of this article) and the locations where the samples were collected. As such, the room focuses on the scientific dimension of geology, and on the history of the discipline, ommitting its societal aspects and impacts, including the way minerals are currently utilized. This emphasis on the scientific properties of mineral resources casts the cabinet as a purely geological room, one that hints at the millions of years' that the region has existed. Orienting museumgoers towards the unimaginable lengths of time that make up the chronology of the Earth, this geological approach has influenced natural science displays since their inception. Indeed, curators today face a dilemma when translating 'deep time' into geological exhibits: on the one hand, rocks bear witness to the story of our planet, a temporality that stretches far beyond human history; on the other, the rocks' meanings and uses are imbricated in fast-changing anthropocentric temporalities that are related to extractive practices and technological developments. Had the room been organized according to the societal and economic value of the displayed samples, its layout would have had to often change to address the shifting geopolitical entanglements relating to the consumption of lithium, tin, coltan, gold, tungsten, and similar substances. Instead, the existing captions convey the stable, long-lasting chemical structures of the samples. Yet it is precisely this desire to catalogue and caption elements according to their scientific substance whilst sidelining their human and environmental contexts that has recently come under reproach. As the new museology's representational critique extends to natural science displays, it highlights how geological exhibitions reflect wider knowledge systems that emerged through colonial processes and epistemologies (Hearth and Robbins 2022; Scott 2007). In a text that calls attention to the deep enmeshing of geoscience and colonialism, Max Liboiron explains that the latter "is not a historical event, but an ongoing set of relations that still characterize the common sense of professional science" (Liboiron 2021:876). The practice of collecting, studying, and exhibiting ores, minerals, fossils, and other rocks, is embroiled in colonial logics that promote the scientific properties of inorganic materials whilst depoliticizing the processes through which they are rendered valuable (Lester 2021a, 2021b).[3] In so doing, geology presents the chemical composition of the earth – as well as the deep time it indexes – as objective forms of knowledge that are separable from the scientific contexts through which they were devised.

As a branch of the natural sciences that emerged in the eighteenth century, geology is intimately tied to colonial projects, and this history is continuously indexed in the rock samples on display. While the mineral cabinet is concerned with the history of central Africa's subsoil, its political ecology is complicit with contemporary extractivism that extends the colonial logics of exploitation into the present. Amidst literature that draws out the links between colonialism and extractivism (see Arboleda, 2020; Calvão et al., 2023; Gómez-Barris, 2017, Secord 2018; Greco, 2020), including a specific focus on Belgian expansion into, and literally under, Congolese soil (Honke 2010; Geenen 2012; Rubbers 2013; Makori 2017; Fraiture 2023), I zoom in on two archival texts written by key architects of the Belgian colonial project. These texts show that the Belgian project of colonial extractivism was rooted in the ground from the onset.

Grounding the Colonial Edifice

Geology was a foundational discipline for empire-making within Western Europe, and it played a significant part in Belgium's expansion into Congolese territory. As Nick Merriman remarks:

> the rise of Europe as an industrial power in the 18th and 19th centuries through to its height before the Second World War, was based on the taming and exploitation of the natural resources of its own lands and especially of foreign lands (2020:178).

As with the French and British empires, Belgian colonialism was fueled by a desire for mineral resources found in occupied ground. Initially, this took the shape of a desire for copper, abundant in the Southern regions of the Belgian Congo. The financial benefits garnered from mining activities not only enriched private Belgian prospectors and the Belgian state,

but were essential for the development of mining technologies, transport networks, and the surveillance apparatus designed to further colonialism (Hearth and Robbins 2022; Gelsthorpe 2021). It is because of the centrality of geological knowledge and mining for colonialist projects that rooms such as the mineral cabinet were part of the Africa Museum's initial layout.[4] Designed to attract business investments as well as to garner public backing, the geology room showcased the riches of Congolese resources with a specific emphasis on malachite, the ore from which copper is extracted. Malachite still features prominently in the cabinet's layout, pointing to the historical importance of copper mining (Declerq et al. 2022; Prasad 1989).[5] Large chunks of deep-green rocks are displayed in the centre of the room, while the surrounding glass cabinets show smaller samples of the beautiful wave-like play of forest, emerald, and sea-greens that form malachite's inlay.

While copper, and hence malachite, was essential to the growth of Belgium's imperial power, references to the central role of geology in the colonial system only appear through hints and euphemisms, as is the case with the online description of the room. Here, a brief text fails to mention extractive colonial practices in explicit terms but explains that:

> Central Africa is exceptionally rich in mineral resources. It offers a great diversity of deposits of high economic value, with a wide range of chemical, mineralogical and morphological characteristics. These deposits were formed by different processes, at various times during the region's long geological history. The mineral resources of Central Africa have long been of great interest, both to the mining industry and to scientific research.[6]

In addition to this short text that glosses over the extraction of resources by foreign entities, an entire display in the mineral cabinet is dedicated to the history of Belgian geology. It details the names, key biographical events, and seminal publications of foundational figures of the discipline, such as Charles Lemaire, Jules Cornet, and Alphonse Cabra. In this archival section of the exhibit, colonialism is cast as the hazy context in which these scientific figures operated instead of the driving force behind geological knowledge production.

The absence of direct references to Belgian colonialism is even more glaring when one reflects upon how minerals and ores were excavated from the ground in African and brought to the museum. Most Belgian colonial mining enterprises relied on coercive and violent labour conditions described by Julia Siebert as 'unfree' (Seibert 2011: 369). In addition to being precarious and perilous, work carried out in the mines was – and still is – conducted under physical and economic violence (Hickel et al. 2021: 1031). The working conditions at some of these sites are revealed in photographs, and while the museum and university archives hold image collections depicting extraction processes in the Belgian Congo, these are not on display. My conversations with curators at the RMCA indicated that staff and stakeholders had debated whether to exhibit these images taken by colonists and ultimately decided that they were 'too colonial'. The tensions that surrounded these discussions echoed wider museal debates about the role of imagery in creating decolonial museal narratives (Edwards and Mead 2013). Yet the absence of contextualizing information or photographs ultimately contributes to an erasure of humans and human processes, so that colonialism appears only as a watermark in the exhibition, and the rocks are positioned as if the context of their procurement and display has no bearing on their story.

Probing omissions and absences in museum narratives and archives, several authors have highlighted how silence perpetuates racist colonial structures by effacing the deep enmeshing of science, colonial power, and history (Trouillot 1995; Das and Lowe 2018). In failing to acknowledge the human labour involved in bringing the minerals from underground to the museum (see Hearth and Robbins 2022), these exclusions devalue the experiences and perspectives of the populations indigenous to the regions from which the minerals were extracted. Silencing these processes also affirms the historical links that Kathryn Yusoff tracks through the analytic of 'geologic realism'. Yusoff deploys this term to unpack how "imaginaries of geologic time consolidate particular subjective and nonsubjective (or inhuman) placings" (2019a: 4). In other words, she highlights how the scientific and historical processes that buttress racial capitalism conceptually and materially bind inorganic matter, as well as racialized peoples, to the category of the inhuman (2019b). From this perspective, a geology

room that negates the viewpoint of indigenous and racialized populations confirms, albeit inadvertently, the racist structures of extraction in which Black bodies, like minerals, are objectified to benefit White colonialists and their institutions (Rahier 2003).

The understanding that geology forms a basis of the colonial enterprise is not one that I have formed solely from reading absences within the museum's displays, nor exclusively from the growing critical literature that seeks to redress these silences, including other articles in this issue. Rather, it is a relationship explicitly stated by key architects of the colonial administration, and found in archives outside of the cabinet. For example, in 1947 Maurice Robert, cofounder of the Royal Belgian Colonial Institute and professor of geology at the Université Libre de Bruxelles (ULB – Brussels Free University), wrote a paper that is now kept in the university library titled 'Essay on a Few Fundamental Colonial Problems'. In this article the author argued that the "colonial edifice was built on the basis of mining" (1947: 40). In a speech given three years later, Pierre Wigny, then Belgian Minister for the Colonies, expanded on Robert's thinking in these terms:

> The Belgians are creating a new city in Africa [and] [...] certainly the house is under construction. We are living in a century of reinforced concrete. *However, any civilization that must rest on solid economic foundations must also launch its towers into the sky.* […] Individual exploration is superimposed on material exploitation. While the businessmen clear the fields and follow the seams in the subsoil, the scientists, for their part, find – in the interest of all mankind – this magnificent field of exploration which is open to them [above] [...]. (1950: 779-80, my emphasis added).

These statements by key figures within the political and scientific landscape of 1950s Belgium make two points apparent. The first is the recurring narrative of exploration and exploitation that permeates the colonial project and connects the specific geo-ecologies of metals and ores with projects of extraction and modernization. The second point is that while mining and minerals represented the foundations of the colonial project, from its inception, this construction tended towards the sky (note my emphasis in Wigny's quotation). Mobilizing notions of 'edifices' and 'towers' might seem like a turn of phrase, a flourish specific to self-aggrandizing political speeches of the 1940s, yet if one pays attention, this link to the sky is also apparent in the museum's mineral cabinet, by way of a touchscreen that displays where current mineral and ore mining is carried out in the DRC. In what follows, I continue to attend to the silences and gaps within the mineral cabinet's curatorial narrative. In so doing, I trace how the 'colonial edifice' extends upwards to encompass spaces beyond our orbit, and I probe how elements displayed in the mineral cabinet – which are still mined today in the DRC – continue to be embroiled in colonial continuities.

From Subsoil to Outer Space

While the mineral cabinet with its painted ceilings and glass displays appears restored rather than renewed, there is a noticeable addition to the exhibit: in front of an imposing piece of malachite, a large interactive digital screen charts the locations of contemporary ore mines in the DRC and neighbouring countries. Through a series of maps, it signals that Congolese, Burundian, and Rwandan grounds hold, in various formations and proportions, copper, cobalt, uranium, lead, zinc, tantalum (coltan), tungsten, iron, gold, and diamonds. Here again, the process through which these ores and minerals are quarried, and the conditions in which predominantly Black labourers toil the grounds to extract them, are left unexplained. And while the digital map gives technical and scientific information about inorganic matter, it fails to detail for whom and for what purpose these ores and minerals are important. Addressing these lapses, I show how these sought after materials are essential to contemporary technologies. More specifically, by detailing their use within the aerospace industry, I demonstrate that, whilst constituting the materials through which space travel can be realized, these substances are also the object of projected extraterrestrial excavation. Indeed, because minerals and ores are present in asteroids, contemporary space agencies plan to mine celestial bodies, thereby replicating and extending colonial logics of extraction further into space and time.

Many of the mined materials featured on the interactive screen are essential for existing and future technologies, including the so-called 'conflict minerals' – tin, tungsten, and tantalum. These minerals, commonly known as the 3TGs, are widely used in communications devices such as mobile phones, computers, cars, and household appliances, as well as in the military and aerospace industries (see Vogel 2022). Taking tantalum as an example, the digital map shows where it is currently found within the DRC, and yet it omits telling viewers that 43 per cent of the world's tantalum is currently mined there, which when coupled with Rwandan production (a large part of which is smuggled in from the DRC), means that the two countries are responsible for more than half of the world's yearly production.[7] Tantalum is prized because it functions as a highly effective resistor: it has a high melting point, and withstands oxidation and corrosion much better than other minerals. While tantalum is commonly known as the 'capacitor' for electrical circuits in phones, in the aerospace and military industries, tantalum is used as heat-resistant, high-strength material for the turbine blades, vacuums, and furnaces within rockets and jet engines (Inshewat 2020). Tantalum, then, is literally the stuff of rockets. It is deeply imbricated in the material cultures, practices, and ideologies of speed and distance that define space travel.

In the face of looming global resource scarcity, the aerospace industry has pitched outer space mining as a solution. Asteroids contain composites similar to those in Earth's bedrock; and according to leading space agencies worldwide, mining them could procure the minerals and ores that support techno-capitalism.[8] While such projects might appear to belong in science fiction, ventures to dig for lunar resources – including Helium 3 – are already in motion, and (inter)national space agencies entertain plans to mine other extra-terrestrial resources too. As the European Space Agency website explains, Helium 3 could be used to fuel rockets. Therefore, it might help transform the moon into a launchpad towards deep space exploration, in order to eventually harvest precious substances present in asteroids.[9]

Much like the violent extraction of African soils, projects to excavate alien grounds such as these rely on specific narratives of exploration and conquest. As scholars in the social sciences of outer space have recently decried, by describing places beyond our orbit with terms such as the 'New World', 'new frontier', and 'unexplored territory', politicians, businessmen, and scientists draw on a rhetoric specific to past European colonial expansion.[10] In this vernacular, space is cast as an 'unknown' to be conquered, an empty expanse owned by nobody. Deondre Smiles explains that these semantics of *terra nullius* revive Euro-American settler myths of rightful appropriation and are based in conceptions of land ownership and tenure that fueled the colonization of Africa, Asia, and the Americas (see also Wolfe, 1994). Indeed, this language reveals "the continuing logics of settler colonialism, as well as questions of its future trajectories", as Smiles puts it.[11] These conquest narratives of (extra-) planetary *terra nullius* resonate eerily with the painted ceiling of the RMCA's mineral cabinet that depicts vast uninhabited African lands. The project of conquering and exploiting foreign lands presents a particular pattern, one that indicates that despite political and historical shifts, such as the widespread independence movements of the twentieth century, colonial structures of extractivism endure, absorbing distinctions between past and future. Observing this temporal pattern, Isidore Ndaywel è Nziem (2020) highlights the parallels between tussles for rubber, brutally sourced by Leopold's colonial officers at the turn of the twentieth century, and the scramble for tantalum that marks the passage to the twenty-first century. And as the link between tantalum and rockets makes evident, prospective projects are imbricated in contemporary regimes of mineral extraction in the DRC. Tracing links from copper (and rubber) to tantalum, and from the African subsoil to asteroids, points to the cyclical logic of coloniality, in which time loops in on itself as each technological innovation relies on the transformation of matter from the Earth's substrata. The mineral cabinet exists within this political ecology, and the museum's silences fail to expose these enduring logics of extractivism.

Conclusion

Returning to points raised in the introduction, I again pose the question: how can the RMCA imagine a decolonized museology that takes into account the way that colonial logics of resource extractivism extend into the future and into space? As the conversation about colonial continuities critically reshapes the field of geological and natural science exhibits within museum studies, this question represents an invitation to flesh out a museal practice that contends with colonial continuities. Observing how current debates have defanged the epistemological and political project of decolonization, Eve Tuck and K. Wayne Yang (2012) remind readers that decolonization is 'not a metaphor'. Transposing this perspective to geological displays such as the mineral cabinet, and making it resonate with ongoing conversations about decolonial museology (Giblin et al. 2019; Modest 2020)[12] entail more than redressing museal absences that obscure colonial histories and processes. It also means exposing and undoing the links (Mignolo 2009) that already condition the future and extend the colonial relations indexed by rocks beyond our planet.

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Notes

1 Sumaya Kassim 'The Museum Will Not Be Decolonised', Media Diversified 2017. https://mediadiversified.org/2017/11/15/the-museum-will-not-be decolonised/, accessed April 2023.

2 Royal Museum of Central Africa, 'History and Renovation', Africa Museum. https://www.africamuseum.be/en/about_us/history_renovation, accessed April 2023.

3 Gustave Lester and Tamara Pico, 'The Colonial History of Geology in the United States, Part 1', Insurrect! 2021. https://www.insurrecthistory.com/archives/2021/11/12/the-colonial-history-of-geology-in-the-united-states, accessed September 2023. See also: Gustave Lester and Tamara Pico, 'The Colonial History of Geology in the United States, Part 2', Insurrect! 2021. https://www.insurrecthistory.com/archives/2021/11/17/the-colonial-history-of-geology-in-the-united-states-part-two, accessed September 2023.

4 The Atomium building, a cornerstone of Belgian architecture, is also a notable vestige of a World Fair, this one held in 1958. Its unusual shape replicates an atom of uranium, a mineral found in the subsoil of what is now DRC. Like the mineral cabinet at the RMCA, the Atomium attests to the strong ties between Belgian architecture, displays of colonial wealth, and extractivism in the Congo (Van Beurden 2009).

5 A very large, impressive chunk of malachite also features prominently by the lockers in the museum's renovated welcome pavilion. As such, it is the first exhibited object that visitors encounter.

6 Royal Museum of Central Africa, 'History and Renovation', Africa Museum. https://www.africamuseum.be/en/about_us/history_renovation, accessed April 2023.

7 Updated mineral and ore statistics are available on the Statista website: https://www.statista.com/statistics/1009169/global-tantalum-production/#:~:text=Tantalum%20is%20a%20rare%20transition,estimated%20two%20thousand%20metric%20tons, accessed November 2023.

8 NASA, 'Using Space-Based Resources for Deep Space Exploration', NASA 2023.

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[9] ESA, 'Helium-3 mining on the lunar surface', ESA 2020. https://www.esa.int/Enabling_Support/Preparing_for_the_Future/Space_for_Earth/Energy/Helium-3_mining_on_the_lunar_surface, accessed November 2023.

[10] See Nadia Drake, 'We Need to Change the Way We Talk About Space Exploration' National Geographic 2018. https://www.nationalgeographic.com/science/article/we-need-to-change-way-we-talk-about-space-exploration-mars, accessed September 2022; Marina Koren, 'No One Should "Colonize" Space', The Atlantic 2020. https://www.theatlantic.com/science/archive/2020/09/manifest-destiny-trump-space-exploration/612439/, accessed September 2022; and Kimberley McKinson, 'Do Black Lives Matter in Outer Space?', Sapiens 2020. https://www.sapiens.org/culture/space-colonization-racism/, accessed September 2022.

[11] Deondre Smiles, 'The Settler Logics of (Outer) Space', Society and Space 2020. https://www.societyandspace.org/articles/the-settler-logics-of-outer-space, accessed September 2022.

[12] Yvette Mutamba, 'Yvette Mutamba On Why Decolonizing Museums "Has to Hurt"', Frieze 2020. https://www.frieze.com/article/yvette-mutumba-why-decolonizing-institutions-has-hurt, accessed September 2022.

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***Alana Osbourne**, Radboud University Nijmegen