Vanishing Acts

The Raw Materialism of Otobong Nkanga and Seba Calfuqueo

Michael Shane Boyle



Few concepts from the past half century have proven more generative for performance theory than *dematerialization*. Even when not named as such, the prospect that physical art objects like paintings and sculptures have given way to "art as action" haunts debates about performance (Lippard [1973] 1997:ix), informing perspectives on everything from the liveness and documentation of performance to its potential for commodification. Usually credited to the curator and critic Lucy Lippard, dematerialization is one of the most enduring concepts in performance studies, but today it is also one of the most dangerous.[1]

I am not the first to raise alarm about the hazards of dematerialization. Consider, for example, an important 1973 review of Lippard's *Six Years: The Dematerialization of the Art Object from 1966 to 1972*, in which Mel Bochner described the concept as "potentially dangerous" (1973:75). Through the very act of naming, so Bochner contended, Lippard undermined the hope she pinned to dematerialization—that conceptual and time-based art could evade a commercial market and gallery system geared to handling physical objects. For Bochner, Lippard's "ideological handbook" completed the cataloging work that collectors and curators required, packaging up ostensibly intangible art products for sale (75).

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The danger I associate with dematerialization departs from what Bochner identified over half a century ago. My concern lies in what the continued circulation of this thesis within the art world shares with the term's ideological currency beyond it. Lippard did not pluck the dematerialization concept out of thin air. The "six years" of art-making chronicled in her book were marked by widespread public anxieties about humanity's overconsumption of the material world. This included the neo-Malthusianism of Paul and Anne Ehrlich's *The Population Bomb* (1968) as well as the MIT-based study *The Limits to Growth* (Meadows et al. 1972), both foretelling a near future in which unchecked economic and demographic growth combined to exhaust reserves of natural resources. Such fears helped ignite early ecological movements across over-developed capitalist countries that would place faith in the redemptive possibilities of recycling and ethical consumerism. Although Lippard made no mention of such texts or movements, she did cite a common influence: Buckminster Fuller. In lectures and essays from across the 1960s, the countercultural architect behind the geodesic dome had popularized "ephemeralization" as a goal of satisfying human needs with ever fewer resources (1969:297). His influence underpinned Lippard's dictum of "doing even more with even less" (1973:6), much as it fueled the dematerializing ideals of *The Whole Earth Catalog* and other fantasies that imagined capitalism averting environmental catastrophe if individuals simply chose to consume fewer commodities.

To hear some tell it today, the dream of dematerialization is finally becoming reality—but not because of voluntary limits on consumption. In *More from Less*, for instance, influential automation theorist Andrew McAfee insists that we have entered a "great reversal" in our consumption of the material world, crediting the shift to all the smart machines and AI tools now allowing us to be more efficient. With climatological collapse looming, this leap into "the Second Machine Age" could not have come any sooner (2019:81). Rather than eliminate our jobs, automation is said by McAfee to be delivering the capacity to produce more things with greater efficiency, reducing the inputs required to make them. Capitalism may have set our planet on fire—so this logic goes—but at least it is innovating new extinguishers. There's just one thing missing in McAfee's claim that "capitalism and technological innovation" are "driving dematerialization": evidence (99).

This idea that capitalism is dematerializing of its own technological accord has been roundly criticized. If anything, technological innovation is increasing and not decreasing net raw material consumption globally. Looking at the actual numbers, the energy researcher Vaclav Smil concludes: "Less has thus been an enabling agent of more" (2014:130). Humanity, today, is removing four times the quantity of material from the earth as it did in 1973 (Pineault 2023:42), the year Lippard published her book. This phenomenon of acceleration is known as the "Jevons paradox," named for the 19th-century economist William Stanley Jevons who observed that the invention of more efficient steam engines had led to enormous increases in coal consumption, since the plummeting price of steam power spurred discovery of new uses for it ([1866] 2006). Dematerialization, as financial journalist Ed Conway puts it, is not just a myth, but is "perhaps the most dangerous of all the myths" about capitalism today (2023:14). And as Kōhei Saitō, more bracingly, asserts, the fairy tale "that capitalism-driven dematerialization will solve the climate issue for us" is nothing more than ideological cover for intensifying "the plunder of the periphery" (2024:222–23).

Just to be clear, Lucy Lippard is not to blame for dematerialization becoming a capitalist shibboleth. Yet the term's currency among McKinsey & Company consultants should prompt performance

Figure 1. (facing page) Seba Calfuqueo performing with their masks set atop green pedestals, thin bronze ribbons spilling from their mouths. Cu-tter *at EXPO Chicago, 2024. (Photo courtesy of LABOR Gallery)*

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scholars to take stock of the concepts available to us for discussing matters of materiality.[2] It may seem fortunate, then, that there are plenty of novel "materialisms" circulating in performance studies to choose from today. One of these, made popular by Italian autonomists like Maurizio Lazzarato (1996) and Paolo Virno (2004), derives (however tenuously) from the historical materialism of Karl Marx and promises to shed light on what performance shares with the "immateriality" of service and information-oriented work, long ascendant in deindustrial countries (Jackson 2012:15). Useful as this immaterial materialism may be for understanding life in post-Fordist societies, its proponents often fail to address capitalism's intensifying reliance on natural resources ripped from the earth in places far from Italy.

Meanwhile, others, in thrall to the aphoristic stylings of Bruno Latour (1993) and Jane Bennett (2010) have abandoned historical materialism (and, sometimes, history itself) altogether. This "new" materialism proposes we rethink the centrality of human experience, privileging instead the agential capacities of *things*—be they immovable stones, nitrogen-absorbing plants, robotic animals, or trash bags dancing in the wind.[3] In an epoch of anthropogenic environmental collapse, extending respect to nonhuman entities is certainly overdue. Yet one need not look too far to find misgivings about this particular vogue for non- and posthuman perspectives, including within the pages of this very journal. In the introduction to her special issue on "New Materialism and Performance," Rebecca Schneider cautions that "granting matter agency" can inadvertently "exonerate humans of responsibility" and promote ahistorical thinking (2015:10). Despite new materialism's genuflections to ecological and Indigenous thought, the errors Schneider describes often play into "climate fatalism" (Malm 2021:140) and "New-World-style fantasies" of *terra nullius* emptied of people (Rosenberg 2014). Materials certainly matter but giving them their due must not prevent us from reckoning with the damage humans have inflicted on the planet or from pursuing the reparative work that remains within our collective capacity.

Rather than retreat from materials, I recommend a reorientation toward them, emphasizing the need for a "raw materialism" that sharpens our focus on the role resource extraction plays in mediating humanity's metabolic relationship with nature. I borrow this term—raw materialism—from Marxist-oriented thinkers in world-systems theory and Black studies, who use it to interrogate how colonial legacies of capital-intensive extraction continue to shape the contemporary world. Consider, for instance, sociologist Paul Ciccantell whose "raw materialism" builds on the commodity chain analysis of Immanuel Wallerstein (2004) to highlight how the very biophysical and geologic properties of raw materials have long structured supply chains and struggles over extraction (Ciccantell 2019; see also Ciccantell and Gellert 2018). Meanwhile, philosopher Denise Ferreira da Silva has proposed a "raw materialist method," through which artists and writers engage with raw materials to explore the racialized histories of expropriative violence obscured by capitalist commodity production (2021:41; see also 2017b and 2022). Although Ciccantell and Ferreira da Silva developed their concepts of raw materialism independently, both extend Karl Marx's value theory by shifting attention from exploitation to expropriation, and from commodities to the raw materials that give commodities their substance—materials that often disappear from view during the production process (consider, for instance, the cotton in denim or the sand used to produce microchips). In this vanishing act, all that was required to secure these raw materials also disappears. Raw material, in this sense, names a social category that reveals humanity's instrumentalizing relation toward nature—a relation marked by enduring forms of expropriative violence, from enclosure and land theft to enslavement and genocide. Raw materialism offers a framework for recovering these histories of expropriation, but as Ciccantell emphasizes, it also demands keeping in view the role of collective struggle so as to reject the mistaken assumption that these histories are in any way natural.

2. McKinsey & Company's faith in dematerialization as an engine for economic growth is articulated most notably in their 2017 report *Digital China*, where the concept appears alongside "disintermediation" and "disaggregation" as the three forces "reshaping value chains" and "boosting productivity" (Woetzel et al. 2017:52).

3. For similar litanies, see Jane Bennett's *Vibrant Matter* (2010).

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Whereas Ciccantell and Ferreira da Silva introduce raw materialism as a method of political economic analysis and critical fabulation, respectively, I'm looking at how it takes hold as a technique in performance. Performances by two contemporary artists, Otobong Nkanga and Seba Calfuqueo, push back against the myth of dematerialization by foregrounding the persistent role of resource extraction in expanding the destructive technological means used to accumulate capital. The performances I profile here have much in common. Nkanga's *Solid Maneuvers* (2015–) and Calfuqueo's *Cu-tter* (2023–) unfold like rituals in gallery spaces, with both artists activating their own sculptural objects. Nkanga's and Calfuqueo's performances each spotlight the raw materials that give substance to their objects. These raw materials have histories that neither artist allows to vanish into the objects themselves—histories that index, in the case of *Solid Maneuvers*, the genocidal violence that colonial forces unleashed when strip-mining German Southwest Africa at the start of the 20th century; and, in *Cu-tter*, the centuries-long campaign to erase the Mapuche people from their resource-rich lands in present-day Chile. Though focused on colonial histories of expropriation, both *Solid Maneuvers* and *Cu-tter* showcase the means by which capitalism, despite its dematerializing pretensions, intensifies its technological capacities for transforming the world into a planetary mine.

"If Only I Was a Machine"

When left to its own devices, *Solid Maneuvers* resembles a trio of three-dimensional topographical maps, each made from stacked contour layers of tar, composite metal, and acrylic sheets. The maps are tethered together and mounted at different heights upon tapered metal poles. The tallest of the three reaches nearly to Otobong Nkanga's shoulders, its strata ascending like a gentle staircase. The lowest, suspended just above the ground, reveals a pit. Set at waist height, the third presents a terrain of steep cliffs. Scattered across the ridges and recesses of *Solid Maneuvers* are small mounds of assorted minerals: white and pink salts, glittering mica, fine green malachite powder, and in the bottommost crater, heavy sand laced with crushed copper (figs. 2 and 3). Nkanga's intricate creation makes for an elegant object, wavering between an architectural model and a memorial to a landscape dynamited beyond recognition.

The sculpture spends much of its exhibited existence on its own, yet Nkanga designed it to be activated through performance. At gallery openings and on other select occasions, the artist performs with *Solid Maneuvers*—squeezing salt between her fingers, throwing fistfuls of sand, and dabbing vermiculite beneath her eyes.[4] The half-hour performance typically begins with Nkanga, dressed in dark leggings and a matching shirt, delicately pinching salt and bringing it close to her eyes for inspection. Raising her right arm sharply into the air, she tilts her head back and slowly lowers the salt into her mouth, savoring it as though indulging on a bunch of grapes. Nkanga then pivots counterclockwise a quarter turn. She pinches more salt and again feeds herself. Then another quarter turn; the movement repeated. She completes the rotation with a final turn and one last pinch of salt. With her eyes closed and hands resting on her stomach, Nkanga exhales deeply. Having charted the circumference of a circle, she lifts her arms to shoulder height and flexes both biceps with such intensity that they begin to quiver. Her right arm extends outwards, then swings in smoothly across her body. "Whoop," she yells, following with the other arm before bending both up as though she were readying to box. Five minutes have passed, and not a word has been spoken.

Others who have written about *Solid Maneuvers* tend to characterize the performance as "a kind of ritual" (Gieskes 2023:88), some even describing it as "a nod to how traditional or cultural

4. Nkanga has performed *Solid Maneuvers* nine times to date, and the object has been installed 21 times (in three different versions). All performances have been solo, except for the first on 15 July 2015 at Portikus in Frankfurt, which was performed with a group of students. My account draws primarily from the 3 May 2023 performance at London's Lisson Gallery and a video recording from 14 July 2023 at the IVAM Centre Julio González in Valencia, Spain (GVA IVAM 2024). Spoken lines quoted from the performance are transcribed from this recording. Details not cited here come from my correspondence with Nkanga's studio lead, Wim van Dongen (2024).

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Figure 2. Otobong Nkanga's three-tiered sculpture, featuring assorted salts, malachite powder, sand, and other materials. Solid Maneuvers*, installation view.* Bruises and Lustre *at MHKA, Antwerp, Belgium, 2015. (Photo by Christine Clinckx © Otobong Nkanga; courtesy of the artist)*



Figure 3. Close-up view of Otobong Nkanga's sculpture after her performance, its materials scattered and spilled. Solid Maneuvers*, post-performance view at MHKA, Antwerp, Belgium, 2015. (Photo by Christine Clinckx © Otobong Nkanga; courtesy of the artist)*

ceremonies across the world are dynamic and hybrid" (Thomas 2020). Such accounts are truncated at best. They ignore what is otherwise so obvious: this is a performance about automation. Nkanga makes this explicit in a story she goes on to tell—the tale that gives *Solid Maneuvers* its very structure—of a worker tasked with training a machine slated to replace him.

Nkanga first developed the performance to accompany her sculpture's unveiling at Frankfurt's Portikus in 2015, working with a group of seven students from the Städelschule (where she was a visiting professor) to generate a gestural repertoire "mimicking the movements of machines" (Nkanga 2015). Nkanga has anchored subsequent solo iterations of the performance in this movement vocabulary. As her story of a worker teaching a machine how to move unfolds, she assumes the roles of both worker and robot, her actions becoming progressively rigid and machine-like. This process commences with Nkanga dividing the performance space into slices, each sequentially numbered from one to nine. Using her outstretched right arm as a radius, she counts off "1, 2, 1, 2, 3, 1, 2, 3, 4...," pivoting to different positions along the circumference while her body, as the fulcrum, remains rooted in place. With the halting gait of a lawn sprinkler, Nkanga methodically advances through each number, matching them to their respective positions as she goes. After demarcating the space in this manner, she combines these spatial rules with movement commands. "Clamp 1" she exclaims, while extending her right arm like a crane's boom. Her hand, pointed downward as a grabber, swiftly descends to pinch a pile of white salt. She swings her arm to the designated spot and releases the salt. Nkanga repeats this action several times, turning to different positions and shouting each command: "Clamp 2. Clamp 1. Clamp 4." Then she orders "Fall," bending at the waist over the sand-filled pit. Using her hands as scoops,

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Figure 4. Otobong Nkanga performing as a robotic excavator, using her hands as scoops to move sand. Solid Maneuvers *at MHKA, Antwerp, Belgium, 2015. (Photo by Christine Clinckx © Otobong Nkanga; courtesy of the artist)*

she proceeds to "Clamp" the sand on command and deposits it at the specified location (fig. 4). Nkanga goes on to steadily program additional movements—"Crush," "Throw," "Drop," "Hold," "Open," "Swipe," "Rest." Soon her arms are working independently of each other, and the boundary between human worker and machine blurs. As the pace quickens, Nkanga struggles to keep up with her own swiftly issued commands. "If only I was a machine," she muses at one point, "If only my body would function without me having to think."

As a performance, *Solid Maneuvers* is unmistakably about automation, but it is also "ritualized," composed of "codified, repeatable actions" (Schechner 1994:613). Automation has been described in similar terms, as a procedure for completing discrete tasks in a reliably repeated manner. Some have even traced the origins of automation to the historical development of ritual as a means for cultivating discipline and exactitude (see Pasquinelli 2023:23–48). Defined as such, automation comfortably sits within a long history of managerial attempts to divide the labor process into a series of precise steps, cataloguing and refining worker movements to maximize efficiency, productivity, and, most importantly, control over workers. As Harry Braverman once put it, systematized managerial interventions and automation bend toward the shared horizon of displacing "labor as the subjective element of the labor process" and transforming it "into an object" (1974:180). Taylorism and smart machines both mold workers into replaceable cogs, often working hand in hand to do so.

Nkanga puts this process of rationalized objectification on full display. At the start, she takes her time handling the salt, even seeming to enjoy the activity. But by the end, this action—now scaled-up and accelerated—transforms into something machinic. *Solid Maneuvers* presents the labor process from what Braverman calls "management's eyes," breaking down a task into "universal and endlessly repeated motions" that render workers "interchangeable," whether with one another or with machines (1974:181–82). Yet instead of replacing herself with a machine, Nkanga demands that she herself become ever more like one. "That rhythm enters into your brain and you think about it and at one point in time you don't even think anymore, you just do it," she asserts late in the performance. "You've learnt that gesture until you become a machine." The "subjective factor"

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of labor—Braverman's term for the human element in work—has been stripped away, aligning with capital's aim "to treat the workers themselves as machines" (171). Rather than merely repeat warnings of the risk of humans being replaced *by* machines,[5] *Solid Maneuvers* depicts the process by which humans are treated increasingly *as* machines.

Nkanga breaks with many tropes and techniques familiar to performances of automation, notably abjuring the obsequious turn to digital algorithms and robots as tools for making art. *Solid Maneuvers* distinguishes itself most significantly by foregrounding extraction as the infrastructure for automation. The topography represented in her sculpture is based on a defunct mine in Namibia: the Green Hill of Tsumeb, once named for its abundance of gleaming oxidized copper (see Nkanga 2015). In the spring of 2015, Nkanga embarked on a journey from the coastal city of Swakopmund to visit the site. She traveled north to Tsumeb, following the 350-mile rail route built a century earlier by the Otavi Mining and Railway Company to help strip what was then called German Southwest Africa of its natural resources. At her destination, Nkanga discovered not a hill but a crater, the decimated remains of a century's worth of extraction. The expropriation began in the early 1900s as German colonial forces started blast mining the site. When Indigenous groups, including the OvaHerero and the Nama, rebelled against their dispossession in the region, the Germans responded with genocidal violence. Thousands were condemned to concentration camps or worked to death building the very rail infrastructure used to erode their land (see Olusoga and Erichsen 2011). Believed to have been one of the world's single densest deposits of copper and some 240 rare materials, the Green Hill was mined to exhaustion throughout the 20th century by a succession of German, American, British, and South African capitalists.

Nkanga's sculpture features metals and minerals once extracted from Tsumeb. Although it tells little of this history explicitly, the topographical form, devoid of life, presents the terrain through the "extracting eye" of a mining corporation (Wenzel 2016). *Solid Maneuvers* has been exhibited as a standalone object, but it is most often installed alongside other works Nkanga created from her archival and ethnographic research in Namibia, which includes dozens of drawings, sculptures, tapestries, videos, performances, and murals (see Lewis Hood 2023). What Denise Ferreira da Silva has said of *In Pursuit of Bling*—Nkanga's first installation of her Tsumeb works—applies as well to *Solid Maneuvers*: "it works for the exposure of how colonial violence remains active in the global present" (2017a).

When it comes to the performance, however, the loose resemblance to a ritual has led some to interpret the artist's insertion of her body into this scarred landscape as offering a form of remedy. For instance, Mette Gieskes distinguishes Nkanga's "respectful and affective" encounter with materials from those of miners who are "incited to manipulate and exploit rather than responsively interact with the extracted ores." Inspired by new materialist thinkers like Jane Bennett and Rosi Braidotti, Gieskes goes so far as to claim that Nkanga's performance attests to how, "in a postcolonial and post-anthropocentric world, our engagement with matter could be more in line with ritualized interactions with ancestral soil and lands of indigenous cultures" (2023:88–89). Notwithstanding the racialized flattening of Indigeneity at work in this interpretation (Nkanga has no Namibian ancestry; she was born in Nigeria and has lived in Belgium for decades), I struggle to see how *Solid Maneuvers*, even formally, models what Gieskes describes. Most notably, Gieskes fails to recognize that the performance is *also* a scene of industrial automation—an oversight shaped by Gieskes's reliance on new materialism, which, as critics note, tends to disregard the material conditions underpinning capitalism's objectification of humans (see Malm 2018).

Although the artist elsewhere has advocated for humans to show greater care for the natural world, Nkanga's "interactions" with extracted resources in *Solid Maneuvers* are far from harmoni-

5. On this "automation discourse," see Benanav (2020).

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ous: she grabs, crushes, throws, and clamps. As the performance accelerates, her handling of the materials becomes increasingly imprecise, as if she is unable to be concerned with the trail she leaves behind. Tidy at the start, the performance space descends into a mess of sand, salt, and other powders scattered across the sculpture and spilling onto the gallery floor. Nkanga appears visibly spent by the end, her face and garments dusty and stained. Instead of ceremonially rehabilitating humanity's relationship with the land, *Solid Maneuvers* presents a knowing scene of extraction, with Nkanga even casting herself as a robotic excavator.

In *How Europe Underdeveloped Africa*, Walter Rodney details the ways that European colonialism bolstered capitalism's technological capacities for upturning the earth. Although "the tendency towards technological innovation and renovation" is inherent to the competitive drive for profit, colonization amplified and intensified this dynamic ([1974] 1981:174). The resource plunder of regions like Southwest Africa fueled the invention of extractive technologies designed to discover and remove ever more raw materials from the African continent. The vast surplus Europe reaped from the imperial division of labor boosted demand for goods in the metropole, prompting capital to squeeze ever more resources from colonial lands. Witnessing the violence carved into Tsumeb's devasted landscape left Nkanga shaken—she describes the site as "a space that's been blown up with dynamite" (in Tate 2019). If the gaping hole in Tsumeb is stark evidence of capital's destructive capacities to loot its peripheries, *Solid Maneuvers* could be viewed as a gesture toward recovering what was destroyed.

True though this may be, Nkanga rightly emphasizes that capital's technological prowess for obliteration is as much a part of its present and future as it is of its past. Tsumeb, she remarks, "made me realize the kinds of tools we are using and how we accelerated the rate of that process of destruction, of scarification, of wounding" (in Tate 2019). Mining is often perceived as "a rudimentary activity," but, as Martín Arboleda chronicles, "the degree of technological sophistication" in today's extractive apparatus "is nothing short of astonishing" (2020:3). Where miners once limited their dynamiting to evident seams, entire landscapes—especially in South America—are now being removed, chunk by chunk, with remotely controlled diggers and driverless trucks. Nkanga characterizes these twinned dynamics of economic growth and extraction as a "vicious circle" (in ARTtube 2018). Her work seeks to recover histories of colonial violence, presenting them as the very substance of the capitalist world-system today—its raw material, if you will.

The term *raw material* implies human use of something extracted from nature—*raw*, as in not *yet* processed; ready, if not waiting, to become something else. Raw material is often understood as a capacious category of resources produced by nature, from metals and minerals to fossil fuels and biomass, such as plants and animals (see Pineault 2023). For Karl Marx, however, raw material is a social category that reflects a particular instrumentalized relation humanity has adopted toward nature. For this reason, raw material should not be confused with the concept of a natural resource. "Let us take for example mining," Marx wrote in the second volume of *Capital*. "Here there is no raw material involved, since the object of labour, e.g. copper, is a natural product that first has to be appropriated by labour" ([1885] 1992:274). Marx explains that copper can exist as both a natural product and a raw material—just never at the same time. When copper is mined, it is treated as a natural product to be extracted; it only appears as a raw material when used in a production process to "form the substance" of another product (274).

Marx classifies raw material as a means of production. But unlike machines or tools—which transfer only a portion of their value to a commodity without physically becoming part of it—raw material surrenders the entirety of its value at once to form a commodity's physical substance. For example, when cotton is transformed into yarn, the cotton is fully absorbed into the product, while the spinner remains intact. As circulating capital, raw material shares something with labor-power: both must be constantly replenished for production to proceed. Yet, raw material departs from labor-power in that only labor-power can generate new value. While raw material adds its entire value to a commodity, it cannot, on its own, create additional value beyond this.

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Raw material and labor-power converge in another respect: the prior existence of both is obscured within the commodity. Regarding this vanishing act, Marx had much to say about labor-power, but comparatively little when it came to the fate of raw material. Addressing this discrepancy, Ferreira da Silva, in several publications, has outlined how raw materials vanish into the substance of the commodities they are used to produce. Her concern lies not in the physical transformation of raw materials during the production process (such as spinning cotton into yarn), but in what is required to make these raw materials available to capital in the first place. Ferreira da Silva points to a fundamental dilemma that raw material makes plain: so much of what goes into the value of a finished commodity is disavowed by capital—and, as she argues, by society as such. When a raw material like cotton, cultivated with slave labor on stolen lands, was transformed into yarn in the 19th century, the resulting commodity concealed all traces of this labor and land, including the violence of expropriation. As she writes, all the value provided by "Native lands and enslaved bodies vanishes into/as raw material" (2021:46). Ferreira da Silva describes this process as a vanishing act, in which all prior acts of expropriation disappear from view within the commodity, no matter how destructive or scarring. This goes beyond commodity fetishism; it entails a "logic of obliteration" (2022:41).

Ferreira da Silva acknowledges that Marx, focused more on *exploitation* than *expropriation*, paid relatively little attention to raw material.[6] However, her exploration of "the depths of Marx's account" seeks to do more than address a Marxological gap in value theory or expand on histories of so-called primitive accumulation (2017b:246). Her "raw materialist method" requires sticking with raw material to better glimpse the expropriative violence inherent to capitalism (2021:41). This raw materialism diverges from a genre of writing that's gained popularity in recent years, in which journalists forensically trace extractive supply chains to reveal the often-overlooked raw materials underpinning modern life (see Conway 2023; Scheyder 2024). Ferreira da Silva is even more ambitious, proposing "an approach to reading, as a materialist practice, one that includes imaging of what happens and has happened as well as what has existed, exists, and will exist otherwise—all and at once" (2021:43). For good reason, she centers her account on captive bodies and stolen lands, the sources of expropriated value with which the capitalist world-system has been built.

In practical terms, raw materialism obliges us to scrutinize more than the social relations of worker exploitation that give form to commodities. We must also track the expropriative violence that accounts for the very substance of capital itself, violence that can still be felt. Expropriation involves acts of brutality like forced migration, genocide, and land theft, as well as slower forms of violence that steadily wear down humans and the environments on which they depend. Among the latter we might include mining and ecological degradation, but also what Sylvia Wynter describes as the "seasoning process" of people on colonial plantations: "the African had *first to be broken into the acceptance of his/her identity as a born-to-be-a-slave*, *negro/negra*, i.e., as productive labour and nothing but productive labour" ([1977] 2022:475). Raw materialism requires probing how violent histories of expropriation shape the present and future, not least as the very precondition for accumulation. This means reading "through *raw material*, the colonial as a moment of the creation of capital" (Ferreira Da Silva 2017b:250).

Solid Maneuvers demonstrates that raw materialism is not only a tool for critical fabulation but also a performance technique aimed at redress. Through her performance, Nkanga evokes the dispossession of Tsumeb and showcases how the raw materials that give substance to social life today are inextricably tied to the genocidal clearing and occupation of such land. Yet, as a performer, Nkanga does more than prevent this history from vanishing "into/as *raw material*." Of an earlier work by Nkanga also related to Tsumeb, Ferreira da Silva notes that the artist's technique "activates blackness's creative capacity"—inaugurating a disruptive force capable of making visible what has been stolen (2017a). A similar dynamic is at play in *Solid Maneuvers*, where the significance of

6. Ferreira da Silva identifies exploitation and expropriation as the two "modalities through which capital ensures its own survival" (2021:95). The former—the primary focus for Marx ([1867] 2024)—entails "appropriation of surplus value" through waged labor, and the latter—her focus—"appropriation of the total value yielded by dominated (through total violence, that is, occupation of land and enslavement of person) labor" (Ferreira da Silva 2021:95).

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this activation is heightened. Nkanga's presence spotlights how creative capacity is stripped from workers, which she connects to a racialized context of colonial expropriation. This being just a performance though, Nkanga does not actually become a cog—far from it. When, for the purpose of writing this article, I requested the script for *Solid Maneuvers*, Nkanga's studio replied that no such thing exists. While starting from a pre-established concept and movement vocabulary, her performances are "unique events," with content and even duration dependent on improvisation: "you never know what will come" (van Dongen 2024). Far from vanishing into her raw materials, Nkanga's own creative capacity erupts alongside them.

From one perspective, particularly in light of contemporary fears about automation, these improvisations can be seen as asserting that even in today's most ruthless, algorithmically managed workplaces, everyday acts of worker subversion remain possible (see Gent 2024). However, the performance also looks beyond the realm of exploitation, striving to demonstrate how exploitation is intertwined with—and even predicated upon—the expropriation of productive capacities, both of land and bodies. *Solid Maneuvers* evokes Wynter's argument that the "paradigm" for reducing "the creative possibilities of human men, women, and children to one single possibility—man/woman/children as material producers" does not originate solely in the exploitative capitalist workplace, but also in the plantation archipelago, from which it "extended itself globally" ([1977] 2022:473). Nkanga intertwines histories of exploitation and expropriation, tracing capital's shared logics aimed at appropriating value. In creating this performance, particularly through her use of improvisation, Nkanga does more than highlight such histories—she demonstrates the endurance of a creative capacity that transcends capital's manifold procedures for reducing and objectifying humans into mere productive instruments.

"Every Machine Has a Copper Part"

"My body has always been a battleground," Seba Calfuqueo has remarked. "So for that reason it is the material I use most in my work" (in Soldi and Calfuqueo 2020). By this measure, the Mapuche artist's performance repertoire is a further reminder that claims of art's dematerialization only make sense in contexts that equate, as Shannon Jackson puts it, "materiality with the object-ness of the art and not with the embodiment of the body" (2012:19). Calfuqueo's practice also challenges the myth of dematerialization in another way, by foregrounding raw materials like copper, which provide the very substance for capitalist fantasies of total automation.

That the artist's body is central to their repertoire might surprise someone who happens upon *Cu-tter*, an installation of ceremonial masks designed by Calfuqueo, featuring motifs derived from Mapuche cosmology. When first shown at New York's Americas Society in November 2023, Calfuqueo displayed just one mask, exquisitely crafted from a ceramic base and gilded in copper, the eyes embossed with lapis lazuli stones and the ears adorned with copper-plated hoops. By the time *Cu-tter* arrived in Chicago just months later, in April 2024, Calfuqueo's collection had expanded to 10 masks.[7] Despite sharing a copper color palette and general figural design, each mask is unique: some are gilded, while others are coated in enamel with orange and amber lusters. Textures vary, as do the shapes of ears and noses.

In Chicago, Calfuqueo mounted the masks atop green pedestals of differing heights, arranged throughout the space (see fig. 1). The masks seemed to speak for themselves, with thin bronze ribbons spilling from their mouths, each bearing sentences hand-embroidered in copper thread, such as "Since the Industrial Revolution, copper has been the engine of technology" and "What place is getting exploited is decided based on the value of its inhabitants." Masks are essential material

7. The Chicago performance was hosted by LABOR Gallery at EXPO Chicago on 11 April 2024. The following account of *Cu-tter* is based primarily on a video recording available at https://vimeo.com/944575422/931806ace5 (LABOR 2024). Spoken lines quoted from the performance are transcribed from this recording. A video recording of the New York performance at Americas Society on 29 November 2023 is available at www.youtube.com/watch?v=5irooD4lu-IQ. Details about *Cu-tter* not cited are drawn from correspondence with Calfuqueo.

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Figure 5. Seba Calfuqueo pulling bronze ribbon from the mouth of their mask while moving through the gallery space. Cu-tter *at EXPO Chicago, 2024. (Photo courtesy of LABOR Gallery)*

in *Cu-tter*, but so is Calfuqueo's body; the artist designed the masks to be worn, not merely displayed.

Calfuqueo begins performances of *Cu-tter* by entering the space painted head to toe in glittering copper, their long hair pulled back into a single braid flecked with the shimmering metal. They wear an open-sided copper-colored tunic draped over their front and back, secured with thick ribbons. As the gentle but insistent sound of clanging metal starts, Calfuqueo floats toward the audience gathered at one side, placing one foot gracefully in front of the other. Were the scene less solemn, the artist would seem to be sauntering down a catwalk. They sweep back and forth before the spectators, occasionally even cutting through the crowd, the artist eyeing the audience as they go.

With its assortment of masks and a Mapuche-identifying performer, *Cu-tter* greets visitors ambivalently, tapping into the thieving histories of colonial display. It also evokes a genealogy of gaze reversals staged by artists such as James Luna, Coco Fusco, Guillermo Gómez-Peña, and Kent Monkman.[8] Such precedents notwithstanding, Calfuqueo's focus is less on the art historical status of the Indigenous body and more on the technological conditions that bear materially on it.

Cu-tter makes this explicit when Calfuqueo's masks and performing body are joined in the space by a recorded voice piped in through gallery speakers. Spoken in Spanish-accented English, the recording narrates the history of the "precious mineral" known as copper, used by humans for millennia as weaponry, tools, jewelry, and more.[9] "Metals are the beginning of technological progress," the voice asserts as Calfuqueo paces among the masks, casting on each the same sidelong glance as they did the audience. "The metal of our civilization is copper." The chronicle progresses swiftly from copper's ancient applications to its pivotal role in the industrial revolution, when it emerged as "the engine of technology." The metal's conductivity and ductility make it the "ideal material" for today's electricity-dependent global economy. From the circuitry inside computers and refrigerators to the wires that connect them to copper-reliant power plants, "every machine has a copper part."

Copper is "the great, unseen substrate that supports the modern world," so writes Ed Conway in *Material World: A Substantial Story of Our Past and Future*. "Without it, we are quite literally left in the dark" (2023:253). Any decarbonized future under capitalism will undoubtedly demand more, not less, copper. Electric cars, for instance, are spun with four times the amount of copper as their petrol-fueled predecessors. Solar panels and wind turbines need 10 times more copper than fossil fuel power stations to produce the same unit of energy (257). Reducing the carbon footprint of capitalist society will require deepening the planetary mine. We are, however, getting ahead of Calfuqueo...

Having called attention to copper's significance, the artist shifts gears, gliding to a gallery wall where they retrieve a mask from off the floor. They walk backwards with it in hand, as the ribbon—the other end attached to the wall—unfurls to create a barrier separating the audience from the other masks. Calfuqueo dons the mask and gently pulls more ribbon from its mouth, stepping back to keep the ribbon taut (fig. 5). The recording resumes, now recounting the history of industrial copper

8. I have in mind performances like Luna's *The Artifact Piece* (1987), Fusco and Gómez-Peña's *Two Amerindians Visit the West* (1992–93), and Monkman's varied appearances as Miss Chief Eagle Testickle, including *Another Feather in Her Bonnet* (2017).

9. The title, *Cu-tter*, alludes to copper's abbreviation on the periodic table, "Cu."

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Figure 6. Seba Calfuqueo showing a section of the writing embroidered on the ribbon to the audience. Cu-tter *at EXPO Chicago, 2024. (Photo courtesy of LABOR Gallery)*

mining in Chile. This dates back to when, in the 19th century, Europeans and "gringos" colonized the Atacama desert; when Chuquicamata became, in 1911, the first and still largest open pit mined with explosives; when, during this same period, the Guggenheim family bought up mines across the country's north, cleansing their plundered fortunes with art and philanthropy; when Salvador Allende's plans for nationalizing copper were thwarted by a CIA coup in 1973; when, under Augusto Pinochet's subsequent junta, the world's largest copper producer, Codelco, opened for business.

While these stories unfold, Calfuqueo uses the ribbon to reel themself to and from the wall. They flip sections of the ribbon sideways so spectators can glimpse snippets of the embroidered text, much of it excerpted from the recording (fig. 6). Stretched across the space like a ticker tape, no one can read the entire thing; instead, isolated phrases flash up, reinforcing statements they've heard, such as, "Industrial mining is cancer" or "Neocolonialism at its highest level of expression." The recording offers a grim accounting of the devastation wrought by copper mining in Chile: the shortened lives of miners working under deplorable conditions, the lands stolen, the egregious quantities of water diverted to mine the desert, and the towns condemned as sacrifice zones. The performance concludes with Calfuqueo standing as far from the gallery wall as the ribbon allows (fig. 7). "Cutter," the recording declares, "cutting off life, resources, and nature. Cutter, cutting off our bodies." Calfuqueo places the mask on the ground and returns to their collection, pausing briefly in front of each mask before exiting the space. They leave behind an audience separated from the display by a ribbon of copper.

Cu-tter serves as a case example of what scholars in the environmental humanities refer to as "resource aesthetics"—art that foregrounds our overlooked dependence on extractive infrastructures (Bellamy, O'Driscoll, and Simpson 2016). Copper, for example, functions as society's "nervous system," yet we take it for granted as much as we do the neurons and nerves inside our bodies (Conway 2023:253). Copper's relative obscurity exemplifies the invisibility of extraction itself, especially in the feverish discourse over automated and AI technologies. It is exceedingly rare, Conway observes, for proponents who extol the productivity gains promised by automated technologies to "talk about holes in the ground like Chuquicamata" that supply the materials essential for automation (274).

Calfuqueo's approach to addressing this neglect differs from prominent techniques in resource aesthetics, such as Edward Burtynsky's celebrated large-format photography. Burtynsky confronts

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Figure 7. Seba Calfuqueo near the end of the performance standing as far from the gallery wall as the ribbon attached to their mask allows. Cu-tter *at EXPO Chicago, 2024. (Photo courtesy of LABOR Gallery)*

viewers with expansive aerial views of open-pit mines like Chuquicamata, making the upturned, extractive terrains impossible to ignore (fig. 8). The Canadian artist could be said to render such sites strange—were it not that decades of dynamiting had already done the trick. What is most haunting about Burtynsky's landscapes of scarred and wounded earth is the absence of humans. Even the accompanying captions are written in the passive voice, further removing subjectivity and responsibility from the scene. When not evoking the sublime, Burtynsky's captivating photographs of shattered land approach the allure of abstraction. The title of a major 2024 exhibition of his work at London's Saatchi Gallery testifies to this: *Extraction/Abstraction*.

In contrast, Calfuqueo, in *Cu-tter*, refrains from visually representing Chuquicamata, or any mine for that matter. The most notable distinction between their work and that of artists like Burtynsky lies in the inclusion of Calfuqueo's own body, which contributes to a solemn atmosphere that jars with the recording's concentrated literality. The sensuousness of *Cu-tter* might suggest a retreat from the direct invocation of copper. However, is the reference to extraction in *Cu-tter* truly more distant or mediated than in Burtynsky's photographs, edited and displayed as they are in gallery settings? Academic discussions of resource aesthetics often emphasize that art can do more than report on extraction. Artworks, it is said, can reveal "the contradictions between the instrumental and the beautiful, the literal and figurative, extraction and its representation," and sometimes even invite critical reflection on extraction's role in supplying "the material requirements of aesthetic production" (Bellamy, O'Driscoll, and Simpson 2016:n.p.). While this stress on the "material" frequently leads artists and critics to explore the aesthetic life of extractive infrastructures and extracted resources, *Cu-tter* redirects attention to another kind of material entangled in extraction: the Mapuche body.

Cu-tter's visual aesthetic draws inspiration from Mapuche cosmology, yet the recorded voice makes little mention of the Mapuche people. There is no direct reference to their centuries-long struggle against Spanish colonizers, the 19th-century extermination campaigns targeting Mapuche lands, the forced migrations that fractured Mapuche territory across the 20th century, or the resurgence of Mapuche collective resistance in recent decades. Even *Cu-tter*'s focus on copper seems distant from the Mapuche, as most Chilean mines are located north of ancestral Wallmapu lands. *Cu-tter* may speak for itself, but what it has to say about the Mapuche remains unsaid.

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Figure 8. One of Edward Burtynsky's large format aerial photographs of Chuquicamata, which makes the open-pit mine's upturned terrain impossible to ignore. Chuquicamata Copper Mine Overburden #2, Calama*, 2017. (Photo © Edward Burtynsky; courtesy Flowers Gallery, London)*

Calfuqueo was born in a working-class commune of Santiago in 1991, their family having migrated to the capital decades earlier to escape immiseration in Wallmapu. Although not raised culturally as Mapuche, Calfuqueo faced discrimination in school, the bullying made worse by their gender-fluid identity. "In school, I was taught that my people were only part of the past," the artist has reflected, "stripped of any current agency or voice to look toward the future" (2024:494). *Cu-tter* is in keeping with Calfuqueo's broader interdisciplinary practice, blending performance with sculpture, ceramics, and video, all rooted in personal history and archival research into the intertwined trajectories of extractivism and colonial violence. Much of this work stages interactions between Calfuqueo's body and natural elements, most notably water, as seen in their 2020 performance video, *Kowkülen* (Liquid Being). In this piece, the artist lies naked and bound in bold blue ropes on the rocks of a Wallmapu creek, while an onscreen text tells of the 1981 Water Code that restricted Mapuche water rights.[10] Regarding *Kowkülen*, Macarena Gómez-Barris asserts: "Calfuqueo's body is not a metaphor or a flattened aestheticization, but the literal materiality of this settler extractive violence" (2021:77). Memories of colonial violence pervade the footage, yet the staging is carefully controlled by Calfuqueo. The blue ropes, a sacred color, are tied in the style of *shibari* bondage, choices that imbue the film with the capacities—both sexual and decolonial—that Calfuqueo was taught had been stripped away (fig. 9). At once a materialization of extractive violence and an assertion of anticolonial agency, *Kowkülen* exemplifies a raw materialist technique.

So too does *Cu-tter*. Unlike *Kowkülen*, however, this more recent performance contains no visual allusions to bodily violence; instead, Calfuqueo's body remains poised and pristine throughout. Covered entirely in copper, the artist's body approximates the raw material that undergirds the Chilean economy. This performance is not drag; the artist is not pretending to be a piece of copper.

10. *Kowkülen* is available at https://vimeo.com/425710389.

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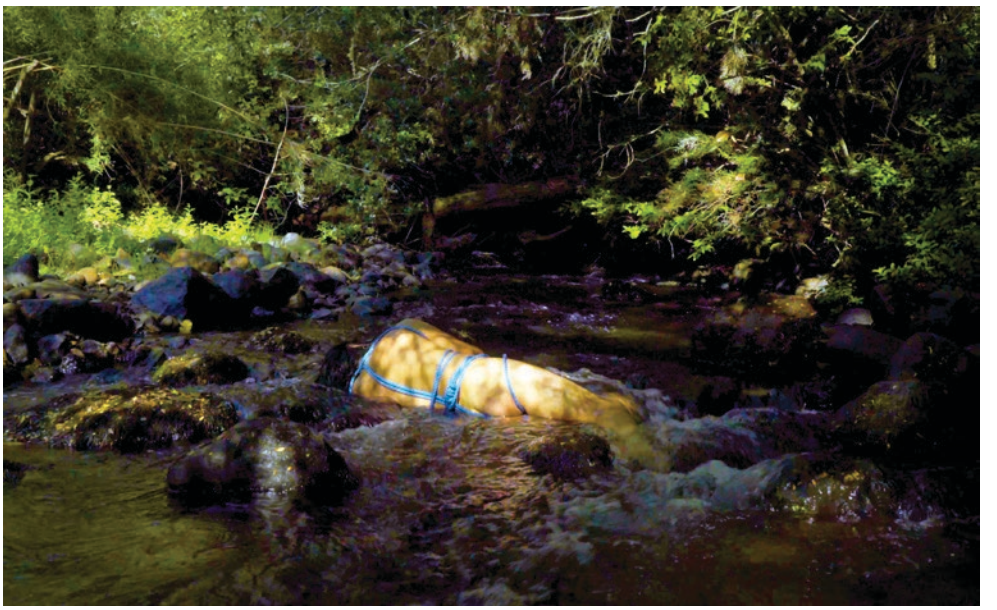


Figure 9. Seba Calfuqueo lying naked and bound in blue ropes on the rocks of a Wallmapu creek. Video performance still from Kowkülen*, 2020. Camera and production: Cons Gallardo y Raúl Moncada. (Courtesy of Seba Calfuqueo)*

Rather, through their body, Calfuqueo infuses the raw material with their own subjectivity. The substance-giving performance in *Cu-tter* challenges the vanishing act Ferreira da Silva describes, where Indigenous lives and expropriated lands vanish "into/as *raw material*" (2021:46). However, in *Cu-tter*, Calfuqueo's body does come close to becoming "a metaphor" or "flattened aestheticization," not only through its theatrical resemblance to copper but also politically, as an overdetermined surrogate for Mapuche history and land. Yet, Calfuqueo retains the "literal materiality" Gómez-Barris describes, with their body bearing witness to a colonial legacy of gender-based violence specific to the Mapuche (2021:77).

Calfuqueo has spoken extensively about their admiration for the *machi weye*, a gender-nonconforming spiritual figure and healer within Mapuche culture. Weye embody both masculine and feminine energies—a quality that was historically revered as sacred in Mapuche cosmology for its association with balance. While not all weye fulfill the shamanic role of machi, their gender variance has traditionally been viewed as a sign of spiritual calling, granting them a unique capacity to mediate between the human and spirit worlds as healers, visionaries, and ritual leaders. However, this reverence was profoundly disrupted by Spanish colonization, as colonial authorities and the Catholic church demonized their gender liminality. Branded as sorcerers or possessed, weye—especially machi weye—became particularly vulnerable to persecution (see Bacigalupo 2007). In an early performance video titled *You Will Never Be a Weye* (2013), Calfuqueo registers how this history of colonial violence persists.[11] Standing in boxer briefs before the camera, they proceed to don an ornate dress, jewelry, and wig, while a voiceover in Spanish recounts Calfuqueo's experience of growing up discriminated against as both "Mapuche and faggot." Even today within Mapuche communities, weye are often dismissed or derided. The narrator recalls how Calfuqueo's own grandmother, dismayed by their gender nonconformity, insisted that "there are no faggots" in Mapuche culture. Drawing from their archival research on gender fluidity within Mapuche

11. *You Will Never Be a Weye* is available at https://vimeo.com/165583660.

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cosmology, Calfuqueo, in *You Will Never Be a Weye*, challenges such erasures and the colonial violence they reflect. Calfuqueo's act of dressing in the video literally recovers an identity denied to them by settler colonialism. "I will never be a weye," Calfuqueo declares, "but I would have wanted to be."

Calfuqueo extends this project of reclamation in *Cu-tter*, even though the concern remains unspoken. The performance carries the solemnity of a ritual, with Calfuqueo appearing as a shamanic figure. However, they are not attempting to be a machi weye; traditionally, in Mapuche ceremonies, the masked figure is the *kollon*, a role often tasked with enforcing protocol and maintaining order. Calfuqueo's gender-fluid body gives substance to a queer Mapuche identity in the present, further attesting to the colonial violence inflicted on the weye. This violence reverberates today in the trans erasure and homophobia embedded not only in Chilean and Argentinian society but also within Mapuche communities themselves. What Gómez-Barris observes of Calfuqueo's "Indigenous non-binary body" in *Kowkülen* holds true in *Cu-tter*: it "breathes and generates capacities that live in the squeeze of the plantation economy, under colonial occupation, in the breach of water scarcity and land occupation, and enduring the multifold onslaught of other forms of late capitalist accumulation" (2021:78). More than simply documenting the expropriation that gives substance to capitalism, *Cu-tter* is material proof that capacities for life targeted for extermination by settler colonialism have not vanished but are, in fact, insurgent.

On the Capacity of Humans

The myths surrounding dematerialization may be many, but the most dangerous of them all has nothing to do with art or performance. As championed by self-proclaimed futurists and accelerationists enamored with capital's productive capacities, this myth holds that capitalist competition will deliver the technological fix necessary to avert climatological collapse. Beneath the glossy veneer of this techno-utopian lore is a desire to sustain economic growth while reducing emissions, an aspiration that, as Jasper Bernes puts it, seeks "to change everything while keeping everything the same" (2019:n.p.). Alongside efficient batteries and affordable renewable energy sources, faith and capital are increasingly funneled into all manner of technological gimmickry—a sign of sublimated desperation if ever there was one. Financial journalists extol the potential of energy-greedy AI tools to green the grid (Staff 2024), management consultants trumpet the waste reduction promised by roboticized factory farms (Bland et al. 2023), and even socialist science fiction writers—who might be expected to know better—entertain visions of blockchain redirecting corporate profit motives from growth toward sustainability (Robinson 2020).

But let's be clear about the current state of affairs: instead of rescuing us from this climatological morass, capital-driven innovation is only blasting the hole deeper. Today, extraction is the most technologically sophisticated and highly automated sector of all industries. As Martín Arboleda observes, "The relentless robotization and computerization advanced by the mining industry makes almost any other sector of social production today seem rudimentary at best" (2020:36). Far from weaning itself off raw materials, the global economy is digging in. If anything is to define the future of capitalism, it will most likely be "the radical upgrading and upscaling of large-scale industry, not its 'dematerialization'" (26). This is a plot whose arc we know all too well, in which technological innovation amplifies capital's capacity to plunder its peripheries.

The raw materialism of *Solid Maneuvers* and *Cu-tter* reveal much about the horizon ahead. Both performances resist dematerialization aesthetically by requiring human performers to activate tangible artistic objects. The substance of these objects, being raw materials like copper, index extractive infrastructures such as mines and railways, as well as the expropriative violence underpinning them. To borrow Ferreira da Silva's phrasing again, neither Nkanga nor Calfuqueo allow the dispossession and death inherent in unrestrained extraction to vanish "into/as *raw material*." Instead, both assert that ecocide and genocide are not byproducts of our present but its very foundation—and likely the substance of any foreseeable capitalist future.

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However, these performances do more than resist the erasure of past acts of expropriation; they also point toward the capacities necessary for any future worth living. The trajectories of capitalism are enabled, constrained, and otherwise shaped, at least in part, by the geographies and biophysical properties of raw materials. The same holds true for the collective struggles that coalesce around extraction (see Ciccantell 2019; Coulthard 2014). *Solid Maneuvers* and *Cu-tter* are not about these struggles per se; they neither document the myriad movements mounting against extractivism today nor prescribe solutions for a sustainable and just future. Instead, these performances offer something more modest: they demonstrate the creative capacities of humans to endure the violence of colonial expropriation, from strip-mining and land theft to enslavement and genocide.

For those already entrenched in such struggles, no reminders about the necessity or potential for collective human action are required. Yet, in an art world currently inundated with claims about "the capacity of things [...] to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (Bennett 2010:viii), demonstrations of human capacity serve as a vital corrective. For all the due Nkanga and Calfuqueo give to the nonhuman world, their performances insist on the creative capacity of humans to act. "There is nothing posthuman about the warming condition," writes Andreas Malm. "It is characterised by the repercussions of human history befalling every ecosystem on this planet, rather like how every planet in this solar system bathes in the light from the sun" (2018:115). Acknowledging this reality is not the same as advocating for human exceptionalism or the instrumentalization of nature. If we want to prevent the worst of all possible futures from coming to pass, it is necessary, as Kate Soper contends, for "human beings to recognize their unique responsibilities for creating and correcting environmental devastation, both for themselves and for other species" (2012:377). Through their acts of activating objects, Nkanga and Calfuqueo demonstrate that whatever needs to be done lies in human capacities—not in things or objects themselves, no matter how intelligent or agential we believe them to be. Their performances, to adopt a term from Wynter, are "techniques of possession" ([1977] 2022:486) that reveal the incompleteness of centuries of capitalist expropriation while also containing the seeds of what must be done for the sake of redress.

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