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# Furious depletion—Conceptualizing artisan mining and extractivism through gender, race, and environment

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A buoyant debate has grown in political ecology and agrarian studies around the concept of extractivism. It shines a light on forms of human and non-human depletion that fuel contemporary capitalism. Within this debate however, artisan mining has been hard to fit in. Artisan mining is a form of small scale mineral extraction that occupies around 45 million people around the world, and sustains the life of many more, especially in the Global South. Much research has looked at this expanding form of livelihood, particularly through the prism of its persistent informality, its labor organization, and its challenges to environmental and labor rights. However, it has not been well-theorized in relations to extractivism, sitting uncomfortably with dominant categories such as “the community”, “the company”, and “social movements” in political ecology analyses. The paper maps out entry points to studying the significance of artisan mining within dynamics of extractive capitalism by bringing in conversation political ecology scholarship on extractivism and research on artisan mining through a feminist lens. It develops the notions of “furious depletion”, attempting to capture the stark socioenvironmental injustice through which artisan mining forms an integral part of extractive capitalism, as both a victim and fuel thereof. The notion also emphasizes the significance of emotions - such as infuriation - in thinking through unjust human-environment relations for transformation. It focuses specifically on the ways relations of gender and race mediate human-environment relations, can help clarify an understanding of artisan mining in the depletion dynamics underlying extractivism. Given the acceleration of mining as part of digital and energy transitions, and the expansion of artisan mining, an engaged conceptualization of artisan mining may support struggles away from extractive capitalism for the decades to come.

## KEYWORDS

artisan mining, extractivism, ecofeminism, gender, race, environment, feminist political ecology, depletion

## 1. Introduction

I had a long chat on the phone with Wendkuni<sup>1</sup> a while back that prompted me to write this paper. I repeatedly get an ambivalent feeling every time we hang up. Wendkuni is a small-scale artisan goldminer from North Burkina Faso, where we met, about 10 years ago. He started being involved into artisan goldmining when he was about 13 years old in order to pay for a tire that broke on his bicycle that would take him to school. He ended up leaving school and continuing to work in artisan mining, initially in his village, and then in Mali, in

1 This name is a pseudonym.

Ivory Coast, and now in several places in Burkina Faso. Throughout the years he learnt various artisan goldmining and trading jobs, and accumulated enough capital until he could finance his own shafts in his father's village, where his wives and kids live and cultivate. When we met, he was co-financing a couple of shafts there and held a small gold trading stall, informally, with a childhood friend. But that work was violently arrested by a transnational mining company that acquired the land where his shafts were located. He shortly got evicted from this land, along with all other artisan miners working there. After struggling to find other artisan mining opportunities for some years he bounced back. Nowadays he is quite a wealthy artisanal gold trader and financier, who manages a dozen of informal shafts across Burkina Faso. So Wendkuni's relation to extractive capitalism is ambivalent. On the one hand he is a poor farmer who found better livelihoods opportunities through artisan mining and whose prospects got violently interrupted by global mining capital. On the other hand, he is quite a prosperous and successful petty capitalist himself, skillfully managing the surplus accumulated from artisan mining work. This paper aims to grapple with the ambivalences of Wendkuni's trajectory, the injustices that traverse it, and the kind of windy politics that may account for how both stories can simultaneously hold true.

Artisan mining is a significant work activity worldwide, it is growing, and as such, deserves more scholarly attention. Some estimates suggest that around 45 million people are directly engaged in the activity in the poorest countries in the world.<sup>2</sup> This is a significant increase from the 13 million people estimated to work in the sector about 20 years earlier (International Labor Organization (ILO), 1999). Some of the key factors typically explaining this growth include a rising global mineral demand, as well as declining returns from agriculture in many agrarian economies where artisan mining is dominant (Banchirigah and Hilson, 2010; Panella, 2010; Werthmann and Grätz, 2012). It is often referred to as Artisanal Small-scale Mining (ASM) in the literature, and contrasted with Large Scale Mining (LSM). While the latter is estimated to produce around 80% of minerals extracted globally, through highly mechanized and capital-intensive mining typically led by transnational corporations, the former encompasses 80% of the workforce in the worldwide mining industry (IGF, 2017). Yet this workforce operates under very precarious conditions. It is largely informal, there is little physical and social protection for artisan mining workers. Accidents often happen in the mines, and deadly chemicals are often used in ways that damage the health of those working in and around the artisan mines, as well as surrounding environments (Tschakert and Singha, 2007; Kaufmann, 2022). Competition and conflict are common between large-scale and artisan mining, and the latter is often pushed out partly because the governments of producing states tend to privilege the former's access to mineral land rights (Fisher, 2008; Hilson, 2019). With an accelerated demand for minerals worldwide, artisan mining is a very significant, yet marginalized, piece of global mineral extraction labor regimes.

In political ecologies of extraction, much work has been done around social-environmental injustices related to large-scale mining, but artisan mining has been harder to theorize. They have largely focused on territorial violence and disputes between large-scale mining projects and residents, indigenous and resistance movements opposing these projects, their infringement on conservation areas, and the contested discourses and institutional histories through which these projects have been promoted as "development" (Bebbington and Bury, 2013; Lu et al., 2017; Caretta and Zaragocin, 2020). This research has evolved into a rich scholarship and the concept of "extractivism" has come to refer to the different forms of social and environmental injustices produced through the extraction of natural resources under capitalism (Acosta, 2013; Engels and Dietz, 2017; Dunlap and Jakobsen, 2020; Gudynas, 2020; McKay et al., 2021; Nygren et al., 2022). Within this research artisan mining is often portrayed ambiguously—it is either implicitly considered as part of affected populations from large-scale extractive projects, or as a harbinger of environmental destruction also enrolled in various forms of trafficking and labor exploitation. Artisan mining does not fit well common analytical categories mobilized in political ecologies of extraction (e.g., "the corporation", the "social movement", the "community")—it either cuts across these, or fits neither. It disrupts and at the same time fuels what has come to be understood as extractive capitalism. But given the sheer number of people involved in the activity, a clearer conceptualization of artisan mining within dynamics of extractive capitalism is necessary.

This paper aims to make a step in this direction, by bringing in conversation the rich scholarship that has expanded around informal artisan mining, and current theorizations of extractive capitalism in political ecology and agrarian studies mostly. These two areas of scholarship have largely evolved separately, and I draw them together with feminist approaches as a "binding element". This is for two reasons: firstly, because ecofeminist approaches especially have developed the concept of human and non-human "depletion" as a core dynamic underlying extractivism, and which I suggest sharply brings into focus the socioenvironmental injustices that also traverse artisan mining. This refers to relations of commodity production that "deplete[s] both the worker and the environment, by extracting from them more work and energy than necessary and leaving them exhausted" (Barca, 2020, p. 6). In doing so it has emphasized the role that gender and race play in mediating extractivist human/non-human relations, that are also key in artisan mining, and I develop this below. The second reason for drawing on feminist approaches specifically, is that they have developed conceptual linkages between emotions and embodiment in a way that challenges narratives of passive victimhood under conditions of social and environmental injustices (Caretta and Zaragocin, 2020; Lahiri-Dutt, 2022). I find that highlighting the emotional politics of depletion brings into focus the voices and representations of artisan miners that are marginalized under extractive capitalism and the transformative potential of affect (González-Hidalgo and Zografos, 2019; Nightingale et al., 2022). Looking at artisan mining through a feminist lens then, prompts me to develop an analytic that I call "furious depletion", and that attempts to both captures the stark and furious socioenvironmental injustice through which artisan mining fuels extractive capitalism, while also bringing attention

<sup>2</sup> Updated estimates can be found on the DELVE database here: <https://delvedatabase.org> (accessed November 11, 2022) and a cartographic inventory here: <http://artisanalmining.org/inventory/> (accessed October 20, 2022).

to the role that emotions—such as infuriation—may play in challenging extractivist relations of production and reproduction.

In proposing this analytic, the paper starts with two sections that review key advances in work on artisan mining and extractivism, respectively, in a way that justifies bringing them in conversation through an the analytic of depletion. In the last part of this essay, I map out an agenda for taking this research forward, particularly highlighting how artisan mining is enrolled in extractivist depletion dynamics at the intersection of gender, race and environment. I build largely on a critical review of existing research, as well as about 10 year's ethnographic research on goldmining, in Burkina Faso especially, and two ongoing research projects on artisan mining in Africa and “responsible” gold supply chains.<sup>3</sup> Given the sheer number of people, livelihoods, families, sustained by artisan mining, and the increased demand for minerals under “green transitions” (Dunlap and Jakobsen, 2020; Le Billon and Spiegel, 2021), a sharper conceptualization of artisan mining in extractivism is a pressing endeavor indeed.

## 2. Artisan mining as “outside” capitalism?

A large body of scholarship has grown around artisan mining in the last 20 years. Artisan mining involves the mining of several minerals, mostly gold, but also others such as diamond, cobalt, tin, tantalum, and tungsten. It includes a great diversity of capitalization, mechanization, and labor organization. These may vary for example depending on the materiality of the ore, the regional histories of artisan mining and its regulation, the kind of end-use the ore serves, and how minerals are ordered in supply chains (Bryceson and Geenen, 2016; McQuilken and Hilson, 2018; Fisher et al., 2021). One key preoccupation within this research has been the persistence of informality underlying artisan mining work (Verbrugge, 2015). Highlighting informality has been key to focus scientific enquiries on the precarity of artisan mining work, but it also tended to promote a representation of artisan mining as “outside” the state and capitalism, as is often the case dominant understandings of informal work throughout the world (Mezzadra and Neilson, 2019; Baglioni et al., 2022). Here, I review some key aspects of the rich scholarship on artisan mining that challenges this view that calls for a sharper understanding of the way artisan mining articulates with wider extractive capitalism.

A good entry point to doing this is in querying the relation between artisan and large scale mining. A great deal of competition occurs between large and small scale mining, namely around access to mineral land. Large-scale mining typically involves transnational capital, mobilized by formal firms and corporations that are granted legal prospection and extraction permits in producing countries. Oftentimes, these large-scale extraction projects are however granted in places where artisan mining already takes place informally. Despite this, producing states have tended to

favor large-scale mining projects in granting legal access to mineral land (Hilson, 2019; Kaufmann and Côte, 2021). There is a historical conjuncture to this that may be traced back to Structural Adjustment Programs that have incentivized private investment as a motor of development, and particularly Foreign Direct Investments. Today still, large-scale mining is widely considered as the motor of development and potential for “growth poles” (Hilson, 2019), namely because of the taxes and royalties they afford producing states, but their promises to boost local development and economies is much more contested (Zongo, 2019; Bolay and Knierzinger, 2021). For these reasons, political tensions often develop around these large-scale mining projects, with strong opposition led by neighboring residents who often include artisan miners themselves (Capitant, 2017; Ayeh, 2022).

These tensions have sometimes led to a representation of large-scale and artisan mining as two separate sectors with distinct relations to extractive capitalism but anthropological work has shown that they are more entangled than they seem. From an organizational perspective large-scale mining is undertaken by formal firms, with important implications in terms of commercialization, legal administration, access to capital and scalability of production that make them an integral part of extractive capitalism. Artisan mining on the other hand involves petty commodity production, largely carried out by informal organizations that lack legal access to mineral rights, and whose articulation with global capitalist markets is a lot less clear. From an anthropological perspective the two forms of mining are not entirely divorced from one another however. Artisan mining, although informal, is often a precursor and therefore an integral part to the development of large-scale mining projects (Luning and Pijpers, 2017; Côte and Korf, 2018). Luning (2014) for example shows in Burkina Faso, that the presence of artisan miners is a key indication of promising mineral land for prospecting transnational corporations, and they are tolerated on prospection permits insofar as they operate unknowingly, as “pathfinders” for mineral deposits. Although these “pathfinders” are typically violently expelled at the inception of large-scale mining projects, their work is often indispensable to the realization of large-scale mining projects. What this suggests is that artisan mining is not exactly “outside” extractive capitalism, but an integral part of it.

Within studies of artisan mining, the sector's articulation with extractive capitalism has not been explicitly addressed, perhaps because of its informality and largely opaque supply chains, but some studies provide valuable insights into this. While artisan mining is often represented as a uniform mass of informal work, it comprises in fact a complex assemblage of labor and capital, which is not exactly outside formal state and market frameworks, but connected to them in deceptive ways. Artisan mining typically comprises laborers who retain links to farming and agrarian dynamics; they may be migrants enrolled in artisan mining *via* social and kin networks, or residents from an area where gold is found (Fisher, 2008; Peluso, 2017). The attraction of artisan mining is often understood as a factor of fluctuating global mineral prices and the decreasing returns of subsistence agriculture within contexts of climate change and reduced national and international support toward small-scale agrarian occupations (Lahiri-Dutt, 2018). But artisan mining also requires some amount of capital to get going: depending on the depth and geomorphology

<sup>3</sup> More details on these projects can be found in acknowledgments. My perspective is somewhat biased toward goldmining, because it has been my own focus, but also because gold constitutes the largest share of artisan mining to date (IGF, 2017), and this is reflected in the literature on artisan mining.

of mineral veins, relatively expensive machinery is required for dredging water out. Machinery is also required for processing the ore, as well as expensive (and sometimes illegal) chemicals such as mercury and cyanide. Laborers' sustenance needs to be financed until any sort of ore can be found. In other words, artisan mining requires the involvement of entrepreneurs to finance mining work. These entrepreneurs often comprise wealthy urban or local elites emerging from artisan mining laborers who have "climbed up the ladder" through a strike of luck and savvy profitable reinvestment of digging profits into gold trading namely, as is the case of Wendkuni with whom I opened this paper. The involvement of these financiers is key to understanding how artisan mining, while mostly informal, does not operate outside, but articulates with, extractive capitalism.

These financiers emerge through both complex, and sometimes exploitative labor organization, and through informal patronage networks, ranging from customary landholders to official politicians, through which they are able to secure access to mineral land and trading networks. While reliable revenue statistics are lacking, as is usually the case with informal work, ethnographic evidence on the distribution of informally mined minerals shows that ore is often shared in the form of bags of rocks that are pulled out of the underground, and typically half of them go to the large number of diggers and laborers, and the other half to a much smaller number of financiers (Werthmann, 2003; Di Balme and Lanzano, 2013; Verbrugge, 2015; Bryceson and Geenen, 2016; Libassi, 2020). Shining a light on these differentiations, Kassa (2020) study is particularly groundbreaking in this regard because it approaches artisan mining work organization through the lens of peasant differentiation, and offers avenues for understanding the shift from petty commodity production and petty capitalism.<sup>4</sup> These differentiations between labor and capital "from below" are key to understanding how artisan mining, although informal, connects to wider circuits of formal mineral supply chain. Vogel (2021) qualifies these financiers as part of a group of "incontournables" in the Democratic Republic of Congo, who are able to secure their position by navigating across formal and informal trade and political networks; Similar dynamics emergence around "mine bosses", or "mbinga", in Zimbabwe (Nkomo, 2022). In some instances, financiers partially mobilize artisan mining formalization policies to secure their ties to mineral land and trade (Fisher, 2008; Di Balme and Lanzano, 2013; Werthmann, 2017). Guéniat and White (2015) for example show that in Burkina Faso, a burkinabè gold trading company, or "comptoirs", financing exploitative artisan mining work operations, smuggled a large part of minerals to Togo wherefrom it could be exported at lower cost *via* Lebanese trading networks that could be traced to one of the largest refinery companies in the world, in Switzerland. What this

work points to is that apparently informal work is in fact traversed by regulatory relations that are "hybrid", cutting across the formal and informal, through which artisan mining connects to formal supply chains and global extractive capitalism more widely.

Pushing this line of argument further, scholars have grappled with different ways to best qualify the entanglement of artisan mining with wider mineral supply chains. Verbrugge and Geenen (2020) for example make a case for understanding artisan mining informality, specifically in the case of gold, as an integral part of extractive capitalism. They argue that informalization is the product of a systemic capitalist structures whereby "capital seeks cheap and flexible labor to overcome recurrent crises of accumulation" (Verbrugge and Geenen, 2020, p. 70). The crises they identify in relation to gold are the growing scarcity of gold, increasing labor costs, and the rise of contestation of large-scale mining projects. Here, the persistent informality of artisan mining is explained as part and parcel of capitalist dynamics, where the chances of profit returns increase through the construction and deployment of cheap and flexible informal labor. This line of argument is compelling, and it echoes wider scholarship, beyond mining, that argues for a better understanding of the role of informal work, and work informalization more specifically, in shaping capitalism, for example through dynamics of adverse incorporation (Meagher and Lindell, 2013; Phillips, 2013).

Despite these apparently deterministic systemic capitalistic structures, anthropological work, grounded in the everyday lives of miners, also invites us to taking seriously the political agency of the margins within which they operate. This approach is inspired by the sheer number of people involved in artisan mining, making up a rough 80% of people employed globally in the extractive industries. So, if artisan mining and its pervasive informality is not an anomaly, an exception or an error of capitalism that can be corrected, but very much a capitalist norm of the global world of work in extractive industries, it is also a key shaper of capitalism. Rather than simply suffering its consequences, artisan mining then holds tremendous power in transforming extractive capitalism. Engels (2021) for example interrogates the relation between informal work and extractivism, and suggests that paying attention to the ways that artisan mining navigate adverse capitalist structures may offer some cues to thinking through radical political economic transformations. In a similar vein, Fisher et al. (2021) develop a conceptualization of artisan mining as an "unruly edge" (Tsing, 2015) that emphasizes not only the ways that artisan miners suffer from capitalist structures' rationalizations of labor and raw material, but also predate them (de Theije, 2020), evade them, and create their own, through "collaborative survival" strategies or otherwise. These, they suggest, must be approached in an open-ended way to think through the re/production but also transformation of capitalism. From this ground-level perspective, artisan mining, although marginalized and constructed as "cheap", is also the norm rather than the exception, and holds tremendous power for transformation.

Through these insights, it is clear that while artisan mining cannot exactly be characterized as "outside" capitalism. On the contrary the research reviewed here rather suggests that it is very much "constitutive" of it (Mezzadra and Neilson, 2019—see also Raeymaekers, 2012). This is clear in the way artisan mining is unknowingly and violently enrolled in transnational mineral

<sup>4</sup> There is potentially a very promising research avenue in building on Kassa's work, revisiting household studies from the 1980s and 1990s striving to understand the emergence of petty capitalism and its distinction from petty commodity production, challenging the preconceived idea that peasants operate "outside" capitalist economies. This has not been taken up to my knowledge, and I am grateful for one anonymous reviewer's tip in this direction, pointing specifically to Bernal's (1991) concept of "cultivating workers", and Cook and Binford (1986) emphasis on the significance family non-waged labor in these differentiation dynamics.

prospecting, in its dominance of global extractive labor markets, which justifies further querying its “adverse incorporation” within global formal mineral supply chains. Within this, much is to be gained from an understanding of the conditions under which artisan mining labor is constructed as “cheap”, while keeping its transformative power in sight. In what follows I suggest some research avenues in this direction, drawing on current work in political ecologies of extraction and extractive capitalism, and particularly on feminist approaches.

### 3. Extractive capitalism, artisan mining, and socio-environmental depletion

A buoyant debate has emerged around the concept of extractivism, inspired by political ecology and agrarian studies scholarship concerned with socio-environmental injustices as not only an effect, but also the very fuel of capitalism. This conceptualization emerged initially through political ecologies of extractive industries, especially in Latin America, and the concept has expanded to extractivist dynamics across different natural resource industries (Acosta, 2013; Engels and Dietz, 2017; Gudynas, 2020; Nygren et al., 2022). Here, I draw on key conceptual insights within this work, especially around the way depletion is central to the production and reproduction of extractive capitalism, and that may help advance an understanding of the construction of artisan mining natures and labor as “cheap”.

There is no clear or consistent definition of depletion, but it is a concept that lays at the core of key dominant definitions of extractivism (see, e.g., Chagnon et al., 2022). It is referred to as a relation of “extraction without replenishment” that is at the core of capitalisms’ social-ecological crises (Acosta, 2013). It relates to a longer -standing discussion and conceptualization of ecological debt, uneven ecological exchange and social metabolism (Clark and Foster, 2009; Martinez-Alier, 2009; Warlenius et al., 2015). As Ye et al. (2020, p. 5) put it, it refers to a dynamic whereby, “instead of reproducing resources, new ones need to be conquered”. Non-human depletion pertains for example to soils and water drained of nutrients under monocultural plantations, and polluted by chemicals in ways that make it difficult for them to re-generate.

Crucially, such depletion emerges from a dominant understanding of “freely” available “nature” that is converted into commodities so that accumulation can take place (Moore, 2015; Kröger et al., 2021). Important here is not that nature ought to be correctly priced, but that depletion occurs through a system of norms and cultural politics that make nature appear as “free for grabs” in the first place.

Feminist approaches have highlighted that depletion not only pertains to non-human nature but also to the human vitality necessary to producing commodities. They bring into question the way capitalist commodity production systematically depletes bodies through the paid and unpaid labor demands imposed on them (Brodin, 2000; Salleh, 2009; Ulloa, 2016). Important here is not the idea that extractive capitalism leaves certain bodies and natures exhausted, but that this exhaustion is an integral part of what produces and reproduces extractive capitalism. And key to understanding this is in

demonstrating how certain norms, relations, or “valuing”, prefigure extractivism (Mezzadri, 2021).

Ecofeminist work has particularly brought this to light, in the ways that patriarchy and racism have shaped uneven dynamics of “extraction without replenishment” (Bernal, 1991; Ulloa, 2016; Ojeda, 2021). This approach is for example clear Dunlap and Jakobsen’s (2020, p. 35) conceptualization of extractivism as a “World eater” figure that “manages people’s ‘rational best interest’ to discourage revolt and entice assimilation, meanwhile organizing a material and interspecies political division of labor centered on class, sex, ‘race’, and real or imagined differences more generally”. Racialized and gendered differences in the global division of labor normalize and naturalize the depletion of some resources, bodies, places over others. In other words, there are key social relations or institutions—such as race and gender—through which systematic depletion takes place (Barca, 2020; Mezzadri, 2021). The making of commodity frontiers cannot be understood without accounting for the ways these social relations intervene in the construction of “cheap labor” and “cheap nature”.

In political ecologies of extractivism that account for depletion dynamics, artisan mining has somewhat been over-shadowed by transnational capital, analytically. The “plantation” and the “mine” have for example been key sites wherefrom extractivism is understood as these are typically produced through transnational corporate capital often represented as the “core” of capitalism (Tsing, 2003; Peluso, 2017; Arboleda, 2020; Li and Semedi, 2021), while small-scale farming and mining are considered as peripheral and have been less studied. For example, Bebbington (2015, p. 92) review only makes a passing mention of artisan mining as related to “subnational political economies of small and medium scale mining governed by actors who have either undermined or taken control of the local state, in some cases taking whole regions largely beyond the purview of the state”. In a more recent review introducing a collection aiming to situate extraction in capitalism, Lochery (2022) also focuses on large-scale mining projects. Such a focus is understandable, as transnational capital is at the core of the largest profits’ generation and has most social-ecological costs. But it may also be that artisan mining is perhaps hard to “fit” in conceptually with typical case studies of extractive capitalism involving large corporations’ interests against those of rural peasants whose livelihoods cut across both labor and capital (Peluso, 2017; Lahiri-Dutt, 2018). Ignoring artisan mining however, somewhat obscures the socioenvironmental injustices through which about 45 million peoples’ lives and livelihoods become enrolled in producing extractive capitalism.

Here, I suggest that querying socio-environmental depletion at the intersection of race and gender can help conceptualizing artisan mining as part and parcel of the production of cheap nature and cheap labor under extractive capitalism. I suggest qualifying these forms of depletion as “furious”, to bring their violence to the fore, but also to emphasize, again drawing on feminist work, the significance of emotions and affect in making the politics of depletion visible, intelligible and actionable. A burgeoning research field has started to emphasize the significance of affect in understanding and addressing human-environment dynamics (Tschakert and Tutu, 2010; Nightingale, 2013). Within this scholarship, affect opens up new ways of knowing socionatures, in

connecting land and body through experience (González-Hidalgo and Zografos, 2019; Caretta and Zaragocin, 2020). Nightingale et al. (2022) for example challenge preconceived ideas of effective climate adaptation that limit the field of science and policy to rationalizing risk and uncertainty. They rather show that paying attention to emotions sheds light on how individuals and collectives respond to uncertainty, and therefore how on change unfolds. A focus on affect and emotions has been key in keeping in tension the simultaneous vulnerability and transformative power of marginalized groups affected by socioenvironmental injustices (Sultana, 2011; Singh, 2017). Similarly here, querying emotions holds the potential of acknowledging the socioenvironmental injustice that traverse artisan mining, while keeping artisan miners' views and representations to the fore, as a legitimate and powerful piece of a wider effort to understand but also transform extractive capitalism. Here, I focus on infuriation, reflecting my own sentiments, as a starting point to bringing emotions into focus (Eriksen, 2022). But the point is rather to make space for querying emotions more widely, infuriation or otherwise, as those that emerge from the embodied artisan mining experiences of gendered and racialized depletion. Below I illustrate this analytic through some examples of furious depletion that emerge at the intersection of gender, race and human-environment relations in artisan mining.

## 4. Furious depletion: Artisan mining, race, gender, and environment under extractivism

### 4.1. "Artisan" mining and the racist underpinnings of extractivism

To start articulating the relation between artisan mining and extractivism through depletion, I take inspiration from an ecofeminist critique of industrial white modernity that emphasizes the role that race and racism play in reproducing its hegemony. Here, race is not understood as naturally inscribed in the body, but may be approached as a "historical artifact" that "has provided mobile markers of identity and difference on this naturalizing ground, rationalizing orders of exclusion as laws of necessity" (Moore et al., 2003, p. 2–3). Human-environment relations can only be understood as embodied, and racism constitutes a key "sociocultural system" that has historically organized this relation (Paulson, 2012). Political ecologies of extraction have drawn on these insights to describe extractive capitalism. A key focus has been on the expansion of mineral extraction frontiers and the production of "sacrificial zones" whereby poor and racialized communities tend to suffer from unproportionally high consequences of pollution and waste (Valdivia, 2015; Scott and Smith, 2017; Arboleda, 2020). Here, I briefly lay out some research avenues for the ways that race and racism is key to the socioenvironmental injustices underlying artisan mining too.

One entry to this is in querying the colonial assumptions that underlie the very understanding of "artisan" mining. Much is to be gained from casting a critical eye on linkages between dominant representations of artisan mining as lacking, as deficient,

and the fact that a vast majority of artisan mining is undertaken by non-white workers, in the Global South. The operation of racism underlying these dominant representations is seldom explicitly tackled, but come in implicitly through critical takes on the category of the "artisan". This appears in the context of violent expulsions related to large-scale mining projects, and conceptualizations of frontier dynamics for example, as the expansion of mineral extraction operates through a dominant understanding of these places as "empty" of proper use, and therefore open for incursion (Kilosho Buraye et al., 2017; Côte and Korf, 2018). These dynamics have typically operated through the mobilization of "artisan mining" as a trope for "bad mining", in contradistinction to large-scale industrial projects (Kaufmann and Côte, 2021), and characterizing improper use, a deficient, unruly, damaging activity, and the artisan miner as "savage subject" (Butler, 2015).

The colonial racism underpinning these dominant representations is fundamental to understanding how violent expulsions are legitimized to make way for transnational capital, or how artisan miners may be temporarily mobilized as unpaid mineral exploration labor (Luning, 2014). D'Avignon (2022) for example demonstrates colonial continuities through a social history of the category "orpailleur", a french term for "artisan miner" used in the West African Sahel, which emerged under French colonial regulation as a way to prevent competition with colonial authorities over goldmining profits. In a very different context, the category of the artisan or "small-scale" miner has also been key to legitimating racialized state-sponsored mineral land claimants in the case of Indonesia (Peluso, 2017). In either case, what emerges from these studies, is that the racialized and racializing category of the "artisan" does "political work". It plays an integral part in the disciplining of non-white labor, and legitimizes racist hierarchies of access to mineral land.

A similar categorization of artisan mining is dominant in today's policy instruments and international organizations' global mineral governance policy. This is reflected in supply chain governance policies mobilizing racialized imaginaries of "artisan mining" that legitimize otherwise contested schemes (Le Billon, 2006; Vogel, 2022). Le Billon and Spiegel (2021) for example demonstrate that some the hidden costs of governance schemes aimed at "cleaning" mineral supply chains are borne by artisan mining communities and built upon racialized representations of "dirty" artisanally mined minerals. Within these interventions, artisan mining is portrayed as "risky" for downstream, importing governments and corporations because of the reputational risks they entail, but these representations obscure the actual existential health and environmental risks borne by miners themselves. Artisan mining involves very high risks of death in potentially flooded or crumbling mine shafts, of lung damage through breathing dust particles in the shafts, and other intoxications and environmental depletion through chemical uses (Landrigan et al., 2022). The informal space within which it operates also makes artisan mining vulnerable to extortion, including from army and government officials, as well as to violent crackdowns. Eurocentric portrayals of risk normalize socioenvironmental injustices suffered by a large majority of non-white miners and hide the responsibility of downstream organizations in producing these existential risks in the first place (Vogel, 2022).

Understanding the way race and racism operate in producing cheap labor and cheap nature is crucial in pinpointing the significance of artisan mining in extractive capitalism. It offers powerful ways to account for dynamics of depletion through which artisan mining connects to wider supply chains, while moving beyond categories of formality and informality that tend to reify an inside and outside of state and capitalism that are hard to sustain empirically (Vogel and Raeymaekers, 2016; Luning and Pijpers, 2017). Doing so brings to light wider class relations underpinning the global division of work and capital, emphasizing namely the role of downstream organizations in connecting artisan mining with circuits of global capital in the Global North (Guéniat and White, 2015). The racializing work that the category of the “artisan” does, is an infuriating part and parcel of the conditions under which some mining labor is constructed as “cheap”. The point here is not that the word of “artisan” should not be used, but rather to highlight the potential to querying the political work that its racist underpinnings play in naturalizing unjust artisan mining work conditions. Doing so by inquiring the emotions and affect that emerge from experiencing these injustices can open a space for contesting these underpinnings and rethinking the relation between artisan mining and extractive capitalism beyond depletion.

## 4.2. A man’s world? Social reproduction, femininities, and masculinities

Another avenue that helps shine a light on the enrollment of artisan labor within extractive capitalism is gender. There is a growing body of research that looks at the role of gender in artisan mining. Artisan mining is often portrayed as a male-dominated activity in the sense that an estimated 70% of artisan miners are male (IGF, 2018), and much research has focused on the growing number of women getting involved in artisan mining, despite their marginalization within the sector. This is explained by the fact that artisan mining offers autonomous work opportunities for women compared to other sectors, and despite a division of productive labor whereby sociocultural norms, and laws in places, circumscribe women’s work to specific activities that tend to be less lucrative, such as alluvial mining and panning (Hilson et al., 2018; Serwajja and Mukwaya, 2020; Buss et al., 2021). Other important work has focused on processes mediating gendered marginalization. Lanzano and Arnaldi di Balme (2021) for example show in West Africa a shifting control over leftovers from ore processing from female to male hands, as part of a shift in technological innovation from mercury to cyanide. This growing body of work on gender shines an important light on the impacts of mining on artisan mining women’s lives, but it also demonstrates the importance of gender as a sociocultural system or institution that mediates relations of depletion between artisan mining and extractivism (Byemba, 2020; Kassa, 2020; Lahiri-Dutt, 2022). Here, I briefly map out some key avenues in further questioning these relations.

Feminist political ecology and ecofeminist approaches offer valuable insights to conceptualize the political work that gender also does at the intersection of extractivism and artisan mining. A first avenue that is particularly fruitful to explore, connects

artisan mining to social reproduction theory (Battacharya, 2017; Mezzadri, 2021). This approach to gender relations highlights the under-valuation of social reproductive work in classical historical materialist writings that have tended to focus on “forces of production” (Barca, 2020). It takes a side step from the dominant focus on surplus-producing labor within the market, and highlights the significance of carework labor (raising and nurturing human beings and the environment) mostly done outside monetary exchange. Without it, the forces of artisan mining production would not be sustained at all (Kassa, 2020).

Social reproduction in artisan mining has hardly been researched, perhaps because of its multi-local and highly mobile nature (Werthmann, 2010; Bolay, 2022). Much social reproduction takes place outside the “mining camps” where most research has taken place. Much evidence shows that the revenues from artisan mining are re-invested in all kinds of activities such as trade, livestock, real estate as well as subsistence farming “at home” where women, alongside children, the elderly and hired workers provide the bulk of subsistence farming labor (Brugger and Zanetti, 2020). Gender then is a key relation through which miners’ lives are sustained, and through which global mineral supply chains operate. In mining camps gender’s political work also highlights the way social reproduction sustains artisan mining. The groundbreaking work of Kassa (2020) for example shows how female miners are generally not expected to undertake lucrative ore processing because of the special skills that women are considered to lack, unless processing is undertaken in the household, in which case women are then expected to carry out this work, unpaid, as their contribution to household production. Women on camps are also often expected to set aside their mining work to support financiers in caring for ill miners. Kassa (2020) makes an important point in showing that gender, as an institution, supports social welfare work that is expected to be fulfilled by the state in other, richer, contexts. These insights show that social reproduction dynamics underlying artisan mining is essential work that “subsidizes” the minerals that are circulated globally. Accounting for the gendered institutions that structure this work in artisan mining is therefore key to start addressing depletion dynamics that underlie extractive capitalism.

A second avenue that is key to understanding the political work that gendered institutions do at the intersection of extractivism and artisan mining, is around masculinities and femininities. While gender norms clearly mediate hierarchical relationships on mining sites, some research also draws attention to a more complex picture. Mining camps are quite specific spaces where dominant norms are also trespassed and reshaped (Nkomo, 2022). Cuvelier (2014) for example pushes against dominant understandings of artisan goldmining masculinities that are often represented as “fixed”, and rather shows how gendered identities are re-negotiated through migration, seasonal work and encounters on mining sites. He illustrates this by shining an alternative light to the notion of the “kivouyou” that commonly refers to money-squandering, alcohol-drinking, commercial sex-buying behavior that prevails on mining sites. Cuvelier shows another side to this notion—as contestations of an established patriarchal order, and attempts by artisan miners to reshape masculinity; as “experimenting with new ways of being a man” away from the “responsible male breadwinner”. Conversely, artisan mining also makes way for the performance of multiple female roles and re-negotiations of femininity (Bashwira et al.,

2014). Several studies present evidence of female artisan miners taking on the role of the breadwinner themselves and explore femininity beyond male patriarchal control through artisan mining (Werthmann, 2009; Bryceson et al., 2013; Bolay, 2022). Shining a light on the fluidity of gender norms is valuable in and of itself, but it also opens theorizing avenues for thinking about gender as a source of social and normative transformation, as Paulson (2016) has pointed out.

So, questioning artisan mining as a man's world helps understand the operation of gender at the heart of processes of depletion underlying extractivism—and thereby also the power of gender in addressing these processes. While a focus on inequalities between men and women in artisan mining productive work is key, a more encompassing understanding of depletion dynamics at the intersection of extractivism and artisan mining, requires questioning this alongside the where, how and why of social reproductive work that allows for artisan mining to happen in the first place. Querying how men and women feel or experience depletion under artisan mining is key to bringing these aspects into focus. And while infuriation might be one such emotional manifestation as hierarchical gendered norms are strong, bringing emotions and experience into focus also shines a light on the way gendered “extractive subjectivities” are particularly fluid in artisan mining camps. Exploring these further is key to imagining post-extractive futures or alternatives (Engels, 2021; Gudhlanga and Spiegel, 2021). This is also crucial to informing more sophisticated “gender-sighted” (as opposed to “gender-blind”) policies that encompass both men and women (Lahiri-Dutt, 2019).

### 4.3. The racial and gendered politics of artisanal mining pollution and degradation

Artisan mining includes significant disruption to the non-human biophysical world. This includes various forms of water, forest, and soil depletion (Appleton et al., 2006; Barenblitt et al., 2021). Mercury use in goldmining has particularly galvanized global attention as it is proven that artisan goldmining is the primary cause of mercury emission worldwide, which has namely motivated the adoption on the Minamata Convention working to ban mercury use in new mines (UNEP, 2013). But like other attempts at global environmental governance, such interventions are also sites of deep political contestation because they ignore the uneven politics of representation that underlie them—something akin to what Marino and Ribot (2012) referred to as “adding insult to injury” and “blaming the victim” in the context of climate adaptation.

One dimension to this uneven politics can be located in the racist underpinnings of the “artisan”. This is clear in the multiplication of current global interventions that focus on mercury eradication in artisan mining, namely through formalization policies. It is difficult to come to reliable estimates around the environmental footprint of mining, but a commonly held view is that “although generally small in scale, the environmental and social challenges associated with ASM are often greater than large-scale mining (LSM) due to the lack of management processes for environmental and social issues and the

fact that ASM is rarely integrated into laws and regulations” (UNEP, 2020, p. 19–20).<sup>5</sup> This view is partly sustained by the highly visible damage that artisan mining has on landscapes, while large-scale projects are more contained and are often subject to environmental impact assessments. Research evidence however also shows that these assessments are often highly illegible and incomplete (Leclerc-Olive, 2022), that the rehabilitation of sites post-project is poorly monitored (Toumbourou et al., 2020), and the environmental risk should a failure occur, like a chemical leak or infrastructural break, is enormous.

The hegemony of a discourse emphasizing artisan mining as a core of global environmental impact of mining, is reliant on the construction of the “artisan” as an unruly or “savage” subject (Butler, 2015). Key here is not that global environmental governance in mining contributes to marginalizing artisan mining, although there is evidence for that (Hirons, 2011; Hook, 2019), but that the formulations of these policies would not be possible without a racist construction of the “artisan” miner in the first place.

This has resulted in policies that undermine artisan miner's livelihoods altogether, when they encourage ore-processing without mercury, but without providing viable alternatives either. Artisan mining operators are thereby pushed into taking even further risks in acquiring and handling chemicals. As they become criminalized, the likelihood of police and other state-sanctioned violence toward them increases too. Such dynamics is captured by what Kaufmann (2022) calls the “politics of toxicity governance” in Colombia, which attempts to make sense of artisan miners' reluctance to consider mercury as toxic substance. What Kaufmann does is shine a light on the apolitical explanations that attribute miners' frustrations and reluctance to abandon mercury, to their lack of knowledge and education. While these may be part of the story he argues, equally significant is the (bio)political power of toxicity in drawing a line between legitimate and illegitimate livelihoods. This reluctance, he shows, is deeply entangled with a sense of emotional injustice felt by miners in the way they are represented. This case of environmental politics is not an isolated one. Spiegel's (2016, 2017) work has been key in shining a light on the injustice and political contestation associated with artisan mining environmental governance in Zimbabwe and Cambodia. Tschakert and Singha (2007) also showed in Ghana how “anti-galamsey”, or anti-artisan goldmining, sentiments justify denying artisan mining laborers a “place at the table” to address chemical contamination in artisan goldmining.

There is no doubt about the environmental harm that any mining activity entails. That is not brought into question here. What is brought forth rather, is the politics of constructing environmental harm as the responsibility of artisan miners whose own health and environment are being threatened (Taux et al., 2022).

Ignoring this uneven politics is intimately bound up in dynamics that reproduce extractivism altogether. This may be captured in relation to what Perreault (2013) once referred to as “dispossession by accumulation”. In a clever twist, he shows

<sup>5</sup> The report may be found here: <https://wedocs.unep.org/bitstream/handle/20.500.11822/33924/SRMS.pdf?sequence=1&isAllowed=y> (accessed November 11, 2022).



how capital accumulation through large-scale mining in the Bolivian Altiplano only becomes possible through the land and soil degradation produced by the accumulation of waste sediments that effectively rob neighboring indigenous communities of productive land. He concludes that “Bolivian mining is subsidized by the lands, livelihoods, and bodies of indigenous campesino people who bear its environmental costs” (Perreault, 2013, p. 1066).

The analysis becomes more complicated however, when bringing in the picture artisan mining, which is *also* subsidized by the lands, livelihoods and bodies of neighboring (though not necessarily “indigenous”) communities, which often include their own—and which connects us back to the operation of gender.

In closing the argument’s circle here, my point is that this “subsidization” cannot be fully visible and accounted for without understanding the role that gender institutions play in shaping the social reproduction work that sustains artisan mining work. The environmental depletion that underlies forms of mining, large and small, is akin to what Salleh (2009) has called the “embodied debt”, that is “owed North and South to unpaid reproductive workers who provide use values and regenerate the conditions of production, including the future labor force of capitalism” (Salleh, 2009—see also Warlenius et al., 2015). Conceptualizing the way artisan mining and extractive capitalism relate cannot be complete without understanding the way gender and race mediate this form of debt. And querying the emotional politics that emerges from racialized and gendered forms of depletion is a powerful way to re-center artisan miners’ experiences in rethinking the part that artisan mining plays in re/producing extractive capitalism.

## 5. Conclusion: Taking furious depletion forward

To conclude, this conceptual analysis has attempted to connect some dots across the political ecology and agrarian research on extractivism, and a significant body of work around artisanal and small-scale mining that has emerged in parallel since the 1990s. The reason why this is important is simply the sheer estimated 45 million people employed, informally, precariously, in artisan mining, either as a main activity or as a complement to subsistence agriculture, in the poorest parts of the world. Given an increased global reliance on minerals, some of which can be mined artisanally, the number of people involved in the activity is unlikely to go down. Yet it has been a tricky activity to conceptualize within the scholarship on extractive capitalism, and conversely, the large body of research that has grown around artisan mining has struggled to situate the phenomenon in relation to wider analyses of extractivism. This article hopes to take us one step in the direction of bridging these conversations.

From artisan mining scholarship we learn that while informal, artisan mining is not outside the state or the market. It may rather be understood as *constitutive* of extractivism through capitalist structures that construct artisan mining as “cheap labor” within extractive industries. Yet, we also learn from anthropological approaches to pay attention to the various ways in which artisan mining evades and circumvents these structures; the sheer number of people involved in artisan mining hold

tremendous potential in transforming seemingly irremediable structural capitalist dynamics working against them. Artisan miners are not passive victims of the structures of global capital, and much remains to be learnt about the ways they connect. Within political ecologies of extractive capitalism artisan mining is not easy to conceptualize however—it fits uneasily with its traditional analytical categories of the community, the social movement, the transnational corporation... However, what resonates with work on artisan mining is the reliance of extractive capitalism on the material and symbolic production of “cheap labor” and “cheap nature”. Feminist approaches go one step further in this direction, highlighting dynamics of depletion at the heart of extractive capitalism, which affect “both the worker and the environment, by extracting from them more work and energy than necessary and leaving them exhausted” (Barca, 2020, p. 6). While some of these approaches have been critiqued for essentializing women as “earthcarers” (Nightingale, 2006), here I rather draw on aspects of this approach that emphasize the political work that race and gender do in enrolling artisan mining in extractive capitalism. I try to articulate some ways that race and gender intersect with human and environmental depletion, to help conceptualize this connection.

I illustrated these intersections, starting with the racializing hierarchies that underpin the concept of the “artisan”, and how it operates under extractive capitalism. This is clear in the construction of the “artisan” miner as a “savage subject” (Butler, 2015) that can be traced from colonial mineral regulations, up to today in legitimizing state-sanctioned violence, displacements and expulsions incurred by large-scale mineral extraction projects. Racist underpinnings of the “artisan miner” are reproduced in global governance schemes aiming to clean up mineral supply chains in ways that makes it difficult to trace artisan mining linkages to global circuits of mineral trade and financialization, and invisibilize the responsibility of downstream actors. Gender is another key “sociocultural system” (Paulson, 2016) through which artisan mining depletion fuels extractive capitalism. Dominant understandings of artisan mining as a “man’s world” (Bashwira et al., 2014) somewhat hide relations of social reproduction that sustain artisan mining, and the fluid masculinities and femininities that may help capture dynamics of transformative change. Finally, the gendered and racialized production of artisan mining as “cheap” labor intersects with human-environment relations. The racializing trope of the “artisan” has infused an approach to global environmental governance that exacerbates risky behavior by miners for both humans and the environment, and alienates them from official decision-making. Part of this trope originates in ignoring the gendered social reproductive work that makes artisan mining possible in the first place. Artisan mining communities are denied a voice whereas their bodies and environments are at the forefront of the different forms of depletion that fuel extractive capitalism.

Calling these relations “furious depletion” may seem cosmetic at best, or a vain attempt at coining a term at worst, but it simply aims to highlight the scholarly potential of bringing emotions into focus. Calling relations of depletion “furious” points to the seriousness of the matter, but also to the potential that querying emotions might have in highlighting connections between artisan

mining bodies and environments that are literally affected under extractivism. Querying emotions—infuriation or otherwise—offers a powerful avenue to make the political work of race and gender visible in extractivist dynamics: how do artisan miners view and experience these depletion dynamics? What emotions and affect characterize these views and experiences? What reactions and behaviors do these lead them to adopt, not least toward governance efforts? Addressing these questions would be an important step further in accounting for the socioenvironmental injustice through which artisan mining connects to wider extractivist supply chains and the governance thereof, and moving beyond analytical categories of in/formality that have proven difficult to hold empirically. Here, I choose to highlight infuriation because it is an emotion that stands in contradistinction with sense of hopelessness and victimhood that extractivist depletion may inspire (Lahiri-Dutt, 2022). But the point is to encourage research that queries artisan miners' own sentiments toward gendered and racialized extractivist depletion. Bringing these emotional expressions to the fore holds the potential to challenge “frames of extractivism” that undermine and sometimes de-humanize artisan mining work in relations of production and reproduction (Kaufmann and Côte, 2021). In a context where mineral extraction is accelerating, and livelihood options are limited across the Global South, the number of people engaging artisan mining is unlikely to waver, and such scholarly work seems to me important indeed.

## Ethics statement

The study involving human participants was approved by the National Ethical Review Boards of Sweden and Burkina Faso. As the interviewee is not fully literate their written consent was not appropriate for participation in the study. The participant provided oral consent for participation.

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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