# "WE ARE RIGHT IN THE MIDDLE OF THEM": MINING AND THE PRODUCTION OF DISASTERS

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Abstract

*This article draws on the history of Mingú, a neighborhood located at the center of the activities of a long-standing mining company in Nova Lima, Minas Gerais, Brazil, and discusses the interrelation of the production of disasters over time with the formation of a socio-spatial group. The narrative is informed by fragments of everyday life that seek to highlight trends and patterns of broader processes, and which resonate beyond the singularity of the particular context presented. Three phases in the history of Mingú are analyzed, revealing the continuity between extractivism and neoextractivism and the notion that disasters are not restricted to natural events, isolated in time and space. In this historical process, the constitution of the group is understood by the way its everyday practices take place within an unstable context, permeated by expropriation and by the difficulty of socio-spatial consciousness and autonomy.*

Keywords

*Mining; Disaster; Neoextractivism; Social-spatial Group; Social Navigation; Expropriation; Nova Lima.*

# "A GENTE ESTÁ NO CENTRO DELES": MINERAÇÃO E PRODUÇÃO DE DESASTRES

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Resumo

*O artigo recorre à história do Mingú, bairro situado no centro das atividades de uma longeva empresa de mineração, em Nova Lima, Minas Gerais, para discutir a inter-relação entre a produção dos desastres ao longo do tempo e a formação de um grupo sócio-espacial. A narrativa é informada por fragmentos do cotidiano, buscando evidenciar tendências e conjuntos de processos mais amplos, indo além da singularidade do contexto apresentado. Assim, são analisados três momentos da história do Mingú, revelando a continuidade entre extrativismo e neoextrativismo e a noção de que os desastres não se restringem a eventos naturais, isolados no tempo e no espaço. Nesse processo histórico, a constituição do grupo é entendida pela forma como suas práticas cotidianas se inserem num contexto instável, permeado pela expropriação e pela dificuldade de consciência sócio-espacial e autonomia.*

Palavras-chave

*Mineração; Desastre; Neoextrativismo; Grupo Sócio-espacial; Navegação Social; Expropriação; Nova Lima.*

# "WE ARE RIGHT IN THE MIDDLE OF THEM": MINING AND THE PRODUCTION OF DISASTERS[1]

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## Introduction

*"We were residents of the mine too. Like it or not, we lived right inside mining"*. As José explained, just one street separated the houses in the lower part of Mingú, a neighborhood in Nova Lima, in the Brazilian state of Minas Gerais, from the industrial area of the Morro Velho Mine. He recounted how nothing was fenced off, where he played with neighborhood friends in the 1980s, and that it was like an extension of his own backyard. The children, aware of the danger, "respectfully" entered the area, picked fruit, and curiously explored the objects used to work in the mine, from fire hoses through to boxes containing explosives. They never entered the mine out of fear. They had listened to the reports of those who worked underground who told of a pitch-black labyrinth, where it was easy to get lost and fall down holes. At home, the mine was also present. It was possible to feel the house vibrate with each underground explosion. Throughout the day, every whistle could be heard announcing the changes in shifts; there was no need even to check the clock. *"We have always been very connected to mining, like it or not"*.

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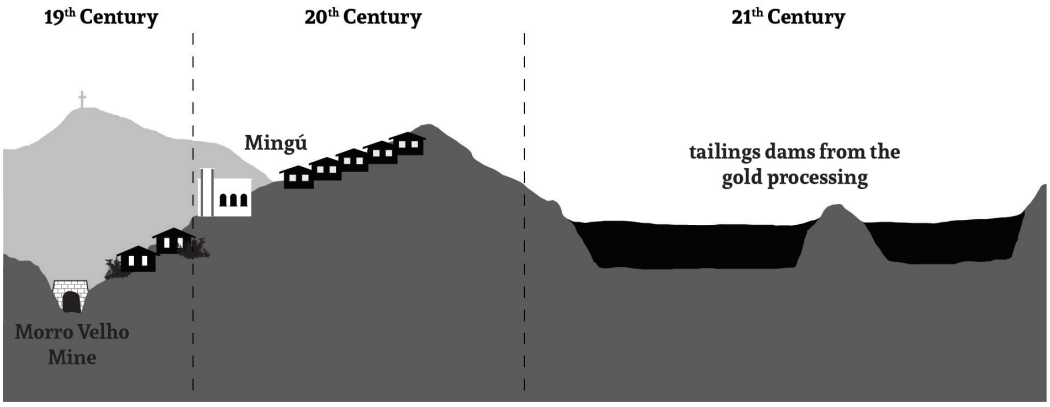


Figure 1. Schematic drawing of the profile of Mingú, with the historical transformation of the neighborhood.

Source: Own elaboration from the Google Earth elevation profile, 2023.

Wandering through the neighborhood, we reach the top of the hill, where a narrow stretch of forest separates Mingú from two extensive dams surrounded by an industry that operates at full steam processing gold from other mines in neighboring cities. In Mingú, located on a hillside, most of the houses were built by the mining company, which to this day still owns several properties in the neighborhood (and in the town). There are approximately one thousand residents, most of whom are low-income and self-declared as being brown-skinned. Even after the deactivation of the Morro Velho Mine at the turn of the twenty-first century, as José described, mining remained an integral part of the lives of residents. Although the physical presence of mining is what is most visible across the territory, in the interaction with daily life, different spheres of collective life are affected, far beyond the extraction of mineral resources.

This ubiquity of mining, in the neighborhood and in the town, is often justified as a kind of manifest destiny — a belief that the underground presence of minerals is an economic vocation of the region, forever bound to the intensive capitalist extraction of resources. It is a fate that inevitably ignores the complex historical constitution of socio-spatial relations that are intertwined with mining activity (Machado Aráoz, 2020; Lefebvre, 1976). By extractivism, we refer to the type of accumulation that began with European colonization based on the extraction and export of large volumes of natural resources that involve little processing (Acosta, 2016). Neoextractivism may be considered a contemporary version of these processes, marked by the growing scale of enterprises, the constant expansion of their frontiers over territories previously considered unproductive and by spillover-effects — impacts that are no longer merely physical and local but begin

to be felt in different spheres and scales of social and environmental life (Gudynas, 2016). The intention of this article is to discuss socio-spatial relations in Mingú in the context of the continuity between extractivism and neoextractivism (Acosta, 2016), taking the production of disasters as our starting point.

Disaster is a concept under constant dispute, with a number of different popular, institutional and academic interpretations directly related to actions of prevention, response and reparation (Quarantelli, 1985; Oliver-Smith, 2019b [1999]; Valencio, 2016). Our objective is to challenge the conceptions of disasters as natural, singular, sporadic and isolated events in time and space. By addressing disasters, in the plural, we set out to analyze them as production, understanding that: (1) they are not exclusively natural phenomena, and depend on the dialectical interaction of transformation between society and nature (O'Keefe et al., 1976; Barrios, 2017); (2) their temporality goes beyond critical events, encompassing previous processes and determining future processes (Hewitt, 1983; Oliver-Smith, 2019b [1999]); (3) they are not always unpredictable since they are related to historical, social, political and economic processes in which the development and use of technologies, and the regulation of activities are conditioned by the extraction of surplus value (Quarantelli, 1985; Oliver-Smith, 2019b [1999]; Zhouri, 2019); and (4) they are associated with the dynamics of expropriation and heteronomy in relation to the affected groups (Kirsch, 2001; Zhouri; Oliveira, 2010).

From among the authors who address the procedural aspect of disasters (an approach that has come to be known as disaster or vulnerability theory), it is common to find in the descriptions both the *construction* (Quarantelli, 1985; Bankoff, 2004) and *production* (Tierney, 2014; Valencio et al., 2004; Oliver-Smith, 2019a [1999]) of disasters. Sun and Faas (2018) argue that although they are often adopted interchangeably, the difference between the two concepts helps to indicate the type of process that is being emphasized. According to these authors, disaster as a social construction addresses the dynamics of subjective significance, while disaster as social production highlights its historical context. Our decision to choose the term production refers to the (social) production of (social) space proposed by Henri Lefebvre (1991) that seeks to clarify the social practices that unfold in the relation with the space (they transform it, and, at the same time, are transformed/determined by it) (Misoczky et al., 2019).

In addition to the corporate practices undertaken by mining companies that are decisive in the production of space (and of disasters), it is important to highlight the everyday ways of life that are forged in the interrelationship with the production of disaster in the context of mining. To do this, we have turned to the formation of the Mingú socio-spatial group. Rejecting approaches that address

social groups and space as watertight categories isolated from one another, a socio-spatial group, according to Silke Kapp (2021), implies the dialectical relationship between society and space: it is a group that constitutes itself insofar as it produces a space and vice versa. For a reading of the formation of the group, our starting point is Henrik Vigh's proposal of social navigation (2009; 2010), which sets out to understand the way in which a moving (social) environment is navigated (socially).

According to Vigh (2009; 2010), social navigation seeks to explain the transformations of a given group in interaction with an unstable environment and articulates the movement of double temporality between what is socially immediate (the context) and socially imagined (objectives and prospects). In other words, in a difficult or unstable situation, people act according to how they perceive external determinations and orient themselves according to the possible imagination and planning enabled by the context — attempting to free themselves from the imposed limitations. However, social navigation does not emphasize the society-space dialectic (Souza, 2013) nor does it differentiate contingent and necessary class consciousness (Mészáros, 1993). While contingent class consciousness relates to partial aspects of contradictions and immediate objectives, necessary class consciousness interrelates such contradictions and objectives to the socio-historical context, and envisages the possibility of transforming relations of production. Socio-spatial navigation is employed here updating social navigation, as a way to help us understand whether in the formation of the Mingú group there are any signs of an historical awareness regarding the production of space, articulating the immediate and the imagined toward overcoming what is merely contingent, seeking to achieve what is necessary for socio-spatial transformation.

In the following sections, in addition to data obtained through historical research, the narratives are activated by three fictional characters, one of whom is the abovementioned José who condenses and incorporates the testimonies and stories of the different Mingú residents interviewed.[2] These are distributed over three periods and highlight the continuities between extractivism and neoextractivism as the disasters expand from the mine environment to the neighborhood and trigger broader dynamics of expropriation — the means of production are removed from

2. The research that gave rise to this article was undertaken during the master's degree on the Postgraduate Program in Architecture and Urbanism at UFMG. The interviews were conducted with residents of the neighborhood between 2022 and 2023. With regard to the historical sources, given the difficulty of consulting the collection that we consider most relevant to the topic (documents from the Saint John d'El Rey Mining Company found at Benson Latin American Collection, The University of Texas, in Austin), we decided to consult secondary sources that analyzed documents such as Libby (1984) and Triner (2004), in addition to the digital collection of the Brazilian National Library, mainly the Hemeroteca (Journal and Newspaper Archive).

the workers, including the land, gradually moving them away from the autonomy to reproduce life (Svampa, 2015; Fraser, 2016; Federici, 2022). Even though the residents' reports are fragmentary, they nonetheless bring perceptions of the totality of processes engendered by mining in territories that have vast mineral reserves. Moreover, despite the inclusion of authors and concepts from current literature on mining from macro to micro terms (global, Latin American, Brazilian and specifically in Minas Gerais, Nova Lima, Mingú), the article has no intention of exhausting the complexity of the topic and the various nuances of interaction of everyday socio-spatial life with what Gudynas (2016) refers to in the plural as "extractivisms". This article introduces literature in a dialogical manner in order to describe the formation of the socio-spatial group that has become constituted in the neighborhood and that has constituted the neighborhood over time.

Complementary schematic drawings have been adopted to visually demonstrate the processes involved in the neighborhood spaces. This is to say, the figures do not illustrate specific sections of the text, but are part of the narrative chain.

## 1. Deep down in the earth

Sebastião was the first member of his family to leave the smallholding to go and work in the mine. With the expansion of coffee production, families such as Sebastião's (small landowners, previously owners of small mines, now dedicated to the agricultural market), sold their enslaved labor and reduced the scale of their plantations so that the family could manage the cultivation itself. With no intention of staying in the settlement, Sebastião moved into a guesthouse. While he had decided to work at the Morro Velho Mine in order to receive a salary, when work at the smallholding became more intense, he would leave the mine to go and lend a hand to his family. At Morro Velho, with the reduced working hours in comparison to others (of eight hours per day), he took on work as a driller, separating the usable ore from the other rocks. His work colleagues were mostly enslaved and even those who were manumitted continued to work at the mine, which was probably the only viable alternative employment in the region. Other men who had recently arrived from their smallholdings, like Sebastião, also maintained a routine of returning to their fields during harvest and sowing times and were often absent from the mine. There are registers of their insubordination in the company's reports, which, dissatisfied with such irregularities in attendance, offered them housing at a reduced rent, so that they could remain in the settlement, effectively tied to the mine. Thus, Sebastião, who was already convinced that his rural origin was an "uncivilized backwater", left his family's smallholding to work exclusively as a salaried worker (Libby, 1984; Grossi, 1981).

The house where Sebastião went to live was in the Córrego do Cardoso valley, where the Morro Velho Mine was initially located during the eighteenth century. The watercourse is located south of the mountain range Serra do Curral, which currently divides the cities of Belo Horizonte and Nova Lima. The colonial occupation that gave rise to Nova Lima first appeared due to the exploration of alluvial gold and surface mining. Initially, mining at the Morro Velho Mine was superficial, limited by the technology available at the time. When the mine was purchased by an English company in 1834 — the Saint John d'El Rey Mining Company —, as part of the opening of the Brazilian market to foreign capital during the Empire, gold extraction in the area intensified and reached its peak (Grossi, 1981; Lima, 1901).

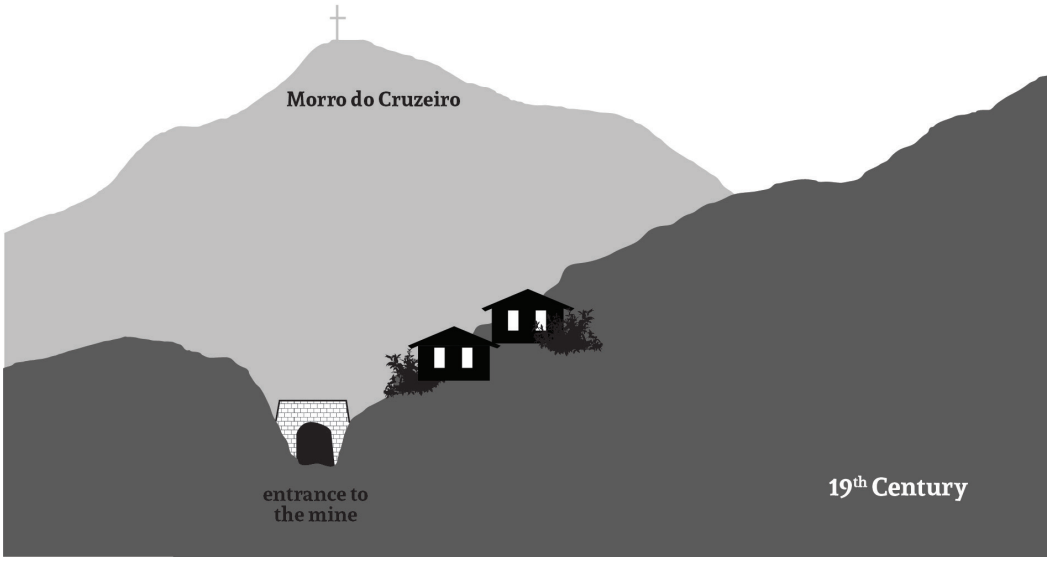


Figure 2. Schematic drawing of the Mingú profile when occupation in the neighborhood began.
Source: Own elaboration based on the Google Earth elevation profile, 2023.

Before it acquired the Morro Velho Mine, the company operated a mine in the city of São João del Rei, also in the state of Minas Gerais, an enterprise which was interrupted due to technical problems and water infiltration in the tunnels (Grossi, 1981). This experience was crucial for the structure of gold extraction in Nova Lima, that entered the technological and organizational stage that Gudynas (2015) describes as the second generation of extractivism. In this generation, equipment typical of the industrial revolution was introduced, such as steam engines, internal combustion engines and explosives, most notably dynamite, which were crucial for the expansion of activities at the Morro Velho Mine, and for mining in general (Grossi, 1981), a technological transformation that prioritised the extraction of surplus value over the protection of workers.

The first century of the activities of the St. John Company was marked by the massive use of slave labor. Even though hegemonic historiography has argued (whether in countries of the North or in Brazil) that slavery is incompatible with capitalist accumulation and industrialization, Douglas Cole Libby (1984) demonstrated that the exploitation of enslaved workers provided the company with a more advantageous surplus value in relation to "free" labor, since the enslaved had already been disciplined and organized in order to guarantee the productive flow without any significant interruptions. His analysis, based on the St. John's annual reports, concludes that, over the years, the company's accumulation of capital depended on the rational (and capitalist) exploitation of enslaved labor. Moreover, in the development of the company, the rational organization of work (controlling the pace of production and the "studied use of labor") seems to have been more important than implementing technological changes.

In the transition to salaried work, as Libby (1984) describes, at various moments, the company faced labor shortages. During the process of abolishing slavery, first in Britain (whose laws applied to St. John) and then in Brazil, the prohibition of the transatlantic slave trade was a milestone. The first attempt in this direction was the Feijó Law of 1831, which had the intention of preventing the trade. However, this restriction only really came into force with the Eusébio de Queirós Law of 1850, which criminalized the slave trade, then considered as piracy, and imposed sanctions on imports.

To guarantee the continuity of work in the mine, during the 1840s, the company initiated a process of adaptation, circumventing the new restrictions by renting slaves from other mine owners in the region who had declared bankruptcy. This was the case of the Cata Branca Mine (located in what is now Itabirito), operated by another English company, which closed its activities in 1844 after the tunnels in the mine collapsed, killing dozens of people, most of whom were Black (Santos Pires, 1890). The enslaved then migrated to the St. John domains on contracts that agreed to their release after fifteen years of service with the company. The contracts were never fulfilled and provoked intense debate among abolitionists in the newspapers of the time (Libby, 1984).

Libby (1984) speculates that the salaried workers, said to be free, were, for the most part, as in the case of Sebastião, men who lived in the surrounding rural areas of the mine. Another contingent of salaried workers were manumitted Blacks, whose freedom was often granted as a reward, but were few in number compared to those coming from rural areas. Libby argues that salaried workers, like Sebastião when he was still sharing work in the fields, "are not yet workers in modern terms, since they are not completely deprived of their means of

production — particularly land — and, therefore, represented transitional figures in the evolution of the Brazilian working class" (Libby, 1984, p. 102).[3] However, the proletarianization process undertaken by St. John directly affected employees like Sebastião, when it offered housing as an enticement to settle in the town. Housing was rented and added to this was the expropriation cost due to the loss of the rural property and agricultural production, which formerly had its surplus commercialized besides meeting the family's needs. The enslaved, on the other hand, possibly found themselves expropriated from the means of production and the reproduction of their lives for successive generations. It is important to consider that this movement, of accumulation through expropriation, initially considered as primitive accumulation, is recurrent in the history of the development of the capitalist mode of production, whether in the center or on the periphery (Federici, 2022). The continuous violence of withdrawing the means of production and reproduction (the means of life) was no different in the case of Morro Velho.

Over time, the mining company's ownership of land took on a significance that went beyond its retention for future exploitation (a widespread justification for the fact that land in the municipality has historically been concentrated in the hands of the mining company): the expansion of its domains over the land was fundamental in establishing a workforce that ensured its continued operation during the twentieth century. The purchase of land were reinforced by the 1891 Constitution of the Republic, which made subsurface ownership indistinct from surface ownership, while deposits were no longer considered state property. Up to the middle of the twentieth century, the company acquired land with ever increasing intensity — including the purchase of properties with iron reserves in the municipality's territory which, later, from the second half of the twentieth century, began to be explored by other companies (Pires, 2003).

In the case of Mingú, one of the first records regarding the neighborhood indicates that the mining company acquired land in the same year as it purchased the Morro Velho Mine (1834). St. John acquired the shares of one of the partners who owned the farm and through a sequence of maneuvers up to 1898, managed to purchase the complete estate. In total, it took four generations for the company to become the full owner, through what was described by the company, in a registration made on the date it completed the purchase, as the "docile and peaceful" possession of Morro do Bonfim or Mingú (Triner, 2004). Mingú also takes part in the transition to salaried work. According to residents, in its early days, Chinese workers also lived in the neighborhood — another attempt by the company to replace slave labor was to encourage immigration.

3. This and all other non-English citations hereafter have been translated by the authors.

A notable nineteenth century account of Morro Velho was written by the English traveler Richard Burton (2001 [1869]). He praised the St. John enterprise of his countrymen, considering it to be one of the few "successful" mining companies in Brazil. He vehemently asserted that no disasters had been reported at the mine, but that even when they had occurred, their causes had been due to the pure "dishonesty" of those who manufactured parts used in the machinery. He even wrote an epitaph for those who, through their supposed bad luck, were victims of precarious working conditions: "Here lies the body of Jan Trenow, Killed underground, we can't say how".[4] Burton ignored the frequency with which, years before his report, there had been collapses and fires in the mine tunnels (Grossi, 1981; Libby, 1984).

On November 10, 1886, Sebastião refused to enter the mine. At the top of Morro do Cruzeiro, he saw a small woman screaming to the miners not to go down. Other work colleagues also seemed to have seen it, but disbelieving the ghost, continued to descend. Later that day, a huge piece of rock broke loose from the roof of one of the tunnels at the Morro Velho Mine, dragging down the machinery and the wooden supports that held up the tunnels. Workers at the bottom of the mine were buried or trapped, while some who were injured in the sections closest to the surface of the mine were rescued by the company teams. The various reports that appeared in newspapers in the province and Rio de Janeiro presented contradictory versions of events, especially regarding the number of deaths. The most widespread version was written by the then Minister of Justice, who, according to information provided by the municipal judge, stated that there had been 10 deaths. In addition, he praised the aid provided by the mining company to the many injured (As Minas..., 1886; Disaster..., 1886). However, the company records, analyzed by Libby (1984), present no data on the loss of life in the collapse.

The residents of Mingú still refer to the story even today and remain astonished at the solution adopted by the company to alleviate the suffering of the confined workers. In a repeat of what had been done forty years earlier in the Cata Branca mine in Itabirito, they decided to divert water from a nearby stream in order to drown the miners. The residents' version calls into question what was divulged in the newspapers, giving the impression that there were a far a greater number of victims. Regardless of the veracity of what was disclosed, the indignation of Mingú residents with the solution adopted by mining companies alludes to their awareness of the danger of working down the mine. The presence at the Morro

4. N.B. - For direct citations, the English version was used of Burton, R. F. *The Highlands of the Brazil.* London. Tinsley v. 1 (1869, p. 249).

Velho Mine of Black people who left Cata Branca reinforces the traumatic memory of the previous disaster among workers and residents.

With the collapse in Morro Velho, the only entrance to the mine was blocked by rock. Exploration became unfeasible for several years, and the company's board in London even considered closing the company. During this period, the main store in the town, Casa Aristides, signed a financial support agreement with the management of the mine — this complicity between the two companies also extended throughout the twentieth century. With the decision of the British headquarters to reopen the mine, a series of measures to rebuild and modernize the company were adopted. Thus, two vertical ducts were drilled into the Mingú slope, so as to reach the vein of gold below the obstruction. These ducts gave rise to the shaft, also called *chafre*[5] by the people of Nova Lima, which was located in the middle of the neighborhood. The structure was responsible for ventilation and cooling inside the mine and was one of the factors that made it possible to excavate to very deep levels — Morro Velho was the deepest mine in the world, reaching around 2.5 km underground. Another entrance was built and the processing stages were modernized. Such changes were responsible for modernizing the company in order to incorporate the productivity demands of monopoly capitalism at the beginning of the twentieth century (Grossi, 1981; Ferrand, 1998).

The extended duration of the disaster is evident from the run of minor collapses, fires and other occurrences that forced activities to a halt. This is emphasized over time by the productive sense imposed by the reopening works. In reality, there was no previous state of "equilibrium" interrupted by the disaster, for the relationship between productive work and nature based on the appropriation of resources and the exploitation of human labor for profit is inherently unstable and prone to crisis. (Hewitt, 1983; Oliver-Smith, 2019b [1999]). The choice was made to continue operations even after a fire in 1867 that demonstrated the fragility of the wooden structures supporting the mine tunnels. The profitability of mining in the Morro Velho Mine, both in 1867 and 1886, justified continuing with underground operations to the detriment of workers' safety. In 1886, for example, a collapse brought extraction to a halt, but after resuming in 1892, the disaster proved to be crucial to a cadence of actions that fostered the company's technological and economic development throughout the twentieth century.

5. The word chafre does not exist in Portuguese, but was invented by the local people using the sound of the word "shaft" in order to produce their own version of the word to describe a place in their town, thereby removing the English meaning of "shaft".

## 2. From underground to the neighborhood

Returning to the street in the report that began this article, a century after the disaster of 1886, José said that living in the area was like living on an eggshell. In addition to the proximity of the industrial area of the mine, with the drilling of ducts in Mingú, excavation extended underground beneath the neighborhood. Like several other places in Nova Lima, the houses had been built by the mining company and, to a large extent, in the 1980s, were still owned by it. The choice to build in a location so close to the mine was not mere coincidence, as seen in the discussion on the company's dependence on the fixation and control of labor. The practice of recruiting the workforce from the countryside, also described in an analysis by Grossi (1981), continued to the mid-twentieth century. The company would regularly send employees into rural areas to find workers that were brought to the mine by the truckload.

This section addresses the phase of managerial changes at St. John, and highlights the sale of the company to a Brazilian group in 1960, when it was renamed Mineração Morro Velho S.A. The company's properties were sold to companies that mined iron, and in 1975, AngloAmerican became the company's largest shareholder in the Morro Velho Mine. This period initiates what Gudynas (2015) considers to be the third generation of extractivism, in which the modernization of mining enabled an exponential increase in the scale of operations. Work continued to be arduous and permeated with risks, which over time, left a cruel legacy on the body: dust.[6] Even José's mother, with her knowledge of herbal remedies, stated that she had no plant that was able to cure the problem of dust — a disease that is like cement in a miner's lungs. Without the widespread use (and often availability) of safety equipment at work, miners depended on their own awareness to at least protect their nose and mouth so as to avoid dust inhalation. Some occupations at the bottom of the mine were also known to be highly dangerous, such as drilling into the rock after detonating explosives. There would often be misfires — dynamite that failed to detonate — and an unsuspecting miner could accidentally cause an explosion when drilling.

Even though many have dust in their lungs, retirees tend to say that they are grateful for the time they worked at Morro Velho. Small personal gains contrast with the exhausting routine at the mine, which even sounds like glory when a family goal is achieved thanks to it. Company salaries were enough to provide better conditions for miners' children, who were able to study for longer and, sometimes, even completed higher education. Also, with the savings from their

6. Colloquial name for silicosis, a lung disease characterized by the accumulation of silica particles, which causes a reaction in the lung.

time working at the mine, some workers managed to buy the houses where they lived from Morro Velho — many believed they could continue living there after retirement, but it was necessary to buy the property in order to be able to stay.

However, in other cases salaries were often insufficient to cover the cost of a month's food, the supply of which was practically monopolized in Nova Lima by a partner store of the mining company, Casa Aristides. Workers' expenses were recorded in notebooks and deducted directly from their salaries; many fell into debt. Famine became a problem among workers between the 1930s and 1940s. In an initial attempt to address the issue, workers organized a purchasing cooperative. However, it did not take long for the municipal government to begin taxing the cooperative such that eventually it was unable to compete with the prices charged by local commerce. Workers then organized purchasing groups that bought supplies wholesale in Belo Horizonte and distributed them among participating families according to their needs. The initiative quickly expanded and persuaded the company to concede properties in the neighborhoods to be used as warehouses. This lasted until the 1960s, when the town hall, under pressure from local traders, once more decided to tax the purchasing groups, bringing their prices in line with those of local businesses (Grossi, 1981).

Within a context in which workers were already deprived of access to the means to reproduce their lives, the purchasing group, in a relatively independent manner played an important role in satisfying food needs. Although this signified a learning experience in terms of spontaneous political organization, it is important to mention the initiative taken by the company, that "peacefully" conceded properties and managed to appease potential conflicts associated with shortages and other indispositions between workers and the company (Grossi, 1981).

During the same period, numerous services provided as social assistance by the company — such as conceding properties to the town hall in order to build schools, health centers and other equipment, in addition to letting houses at symbolic prices — internalized part of the social reproduction within the mining company's productive regime (Pioneira..., 1956). Nancy Fraser summarized this contradictory relationship between exploitation and the need to stabilize social reproduction when she stated that "on the one hand, social reproduction is a condition of possibility for sustained capital accumulation; on the other, capitalism's orientation to unlimited accumulation tends to destabilize the very processes of social reproduction on which it relies" (Fraser, 2020 [2016], p. 262–263).[7]

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7. N.B. – For direct citations, the English version was used of FRASER, N. Contradictions between capital and care. London, United Kingdom. *New Left Review 100,* July/August 2016. Available at: https://newleftreview.org/issues/ii100/articles/nancy-fraser-contradictions-of-capital-and-care. Viewed on: November 27, 2023.

It was common for families in rented Morro Velho homes to grow vegetables and raise animals in an attempt to meet their food needs. In Mingú, neighbors often organized food donations to those who were struggling and held gatherings that revolved around home-produced food which included everything from sundried slaughtered piglets to beans. In an example that acts as a complement to the contradictory nuances of the relationship between mining and social reproduction, José had to take several months off work due to a work injury. During this time, he began to receive his sickness benefit plus an additional supplement from the company in order to equate the benefit during the illness to his original salary. Every month, José went to the Morro Velho social workers to seek this payment. After a while, still unable to resume work and dependent on the company for support, he was made to feel uneasy by one of the social workers, who asked him: "You've got space at home, haven't you? Why not raise a chicken, or plant crops to supplement your income?" José, furious, answered her back in anger, and months later, having resumed his activities, was fired. It transpired that in 1987, a few years before he was sacked, he had been forced to leave his house and backyard on the street next to the mine due to a landslide.

It is important to highlight that, although the group's relationships have been strengthened by practices of mutual aid and subsistence, the dependence on the mining company has never been brought into question, even though it was responsible for controlling the properties where help became possible and for the salaries that failed to meet the family's food needs. In José's case, the solution proposed by the social worker, contradictorily and perversely, would relieve the mining company from paying the salary supplement, thus transferring the responsibility for what was a workplace accident onto José. Whether José was or was not part of the mutual aid network, was planting or raising animals, or had another source of income, should never have been related to the compensation he deserved for his injuries nor to the remuneration for his work in the mine.

There is no doubt that the ties established through practices of mutual aid that knowledge related to subsistence farming and the rural origins of the population on how to grow vegetables and raise livestock was maintained. However, from the viewpoint of socio-spatial navigation, it may be considered that the orientation of these actions was, as a rule, focused on contingencies (such as food shortages), which in turn kept the group vulnerable and susceptible to the problems created by mining. The unquestioned ubiquity of mining obliterated (and still obliterates) the necessary awareness to problematize and face the contradictions that generate contingencies. One example of accommodation in face of a contingency occurred in the 1980s, when several people in the neighborhood were faced with compulsory displacement.

On February 26, 1987, numerous buildings on Rua José Silvestre Barbosa began to show huge cracks, which extended from the floor to the top of the walls. On the same day countless rocks, earth and debris were seen sliding down the Morro do Cruzeiro (next to Mingú). All the residents of the street were forced to leave their homes, backyards, and livestock and, for months, lived in temporary housing conceded by the mining company, including makeshift accommodation in a candy factory and the wards of the company's hospital. The pain of leaving a home that contained the entire history of the family was so great that for a while, José's family decided to stay, even though most of the neighbors had left. Their decision was also based on the fact that they did not perceive any obvious risk, since their house displayed no cracks. As time went by, saddened by the loss of neighbors and of the solidarity that comes with coexistence, they reluctantly decided to leave.

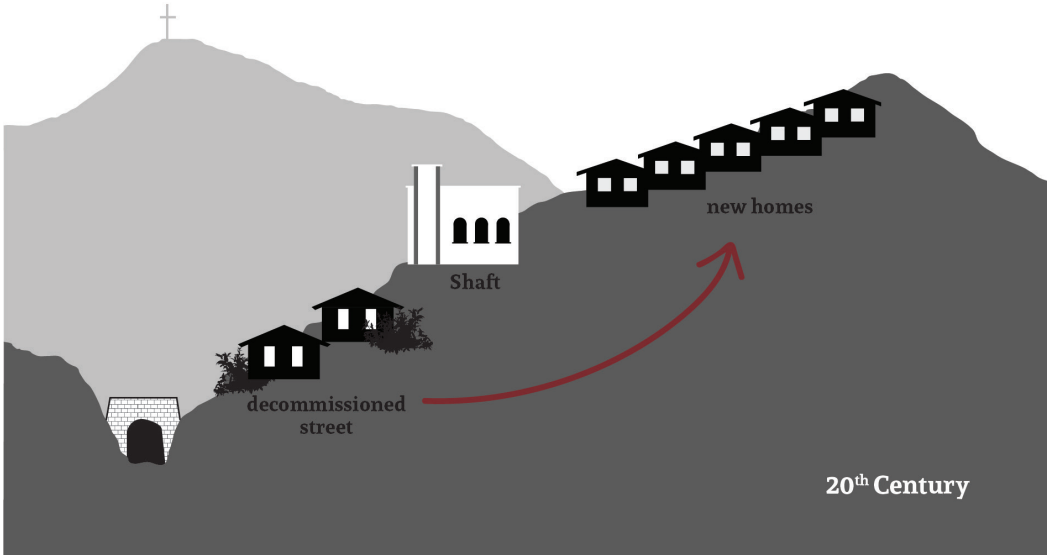


Figure 3. Schematic drawing of the Mingú profile, indicating the compulsory displacement of those affected.

Source: Own elaboration from the Google Earth elevation profile, 2023.

Initially, the mining company went to the press to combat rumors that the event had been caused by mining activities and to argue that the causes of the cracks and the landslide were natural in origin. A company spokesperson declared that the problem had "more to do with the community rather than Morro Velho" (Deslizamento..., 1987). Importantly, the dispute over the reasons as to why the disaster had occurred was a way of attributing blame elsewhere and of exempting the company from assuming responsibility for any repairs (Zhouri et al., 2016). If this episode is looked at from the perspective of the production of disasters, there

is a clear link between what happened in 1886 and 1987. Geographical proximity aside, it is self-evident that such disasters are the result of geological stresses and ruptures caused by intensive mining activity. In other words, both situations resulted from a complex fusion of contradictory and violent socio-spatial, political and economic processes, which we often naturalize. Such processes of neoextractivist accumulation are viewed as the domination of nature, whereas they should be understood in their dialectical relationship with nature (Barrios, 2017). It is often argued in debates on environmental issues, that the modernization and application of more efficient methods of obtaining ore, which occurred mainly after the disaster in 1886, led to a reduction in the damage caused by mining activity (Robbins, 2012). However, it is abundantly clear that by extending the depth of the mine through the introduction of new technologies, the size of affected and damaged areas greatly increased, directly damaging the space where the group was formed.

A strike that began during this episode demonstrated how the workers feared for their safety underground. For several months they demanded external reports from the company in order for them to return to work. Under pressure, the mining company went public to declare: "Aware of its responsibilities, Morro Velho has always guaranteed the safety of its workers. Those who work with us know: for Morro Velho, security is worth much more than gold" (Mineração Morro Velho S.A., 1987). It further stated that it was providing new housing for those who lived on the disactivated street (as residents of the neighborhood refer to it).

In a process that lasted approximately ten months, people were resettled by the mining company higher up the hill in Mingú. Some families opted for cash compensation, and as a result, now live in other neighborhoods of the town. From among the company's vast land properties, only a single street in the upper part of the neighborhood was destined for resettlement. The relatively steep street, gives access to the highest point in the neighborhood, where in 1985, two years before the landslide, and less than a kilometer from the new houses, an industrial metallurgical and sulfuric acid production plant was opened by the same company (Anglogold Ashanti, n.d.). Today, highly dangerous tailings dams have been placed in this location.

The choice of land for building each family home was made individually by those affected. However, the plots were considerably smaller in size than those where the families had previously lived, and were located within an area predetermined by the company. José regrets the loss not only of the old house, *"built to last"*, but also of the backyards and the generous distances between the houses.

Despite describing the previous situation as a place where *"the neighborhood wasn't that neighborly"*, circulation between the houses and access to parallel streets was free and children could meet their friends, even if it was to play in the industrial area of the mine.

## 3. "We are their target"

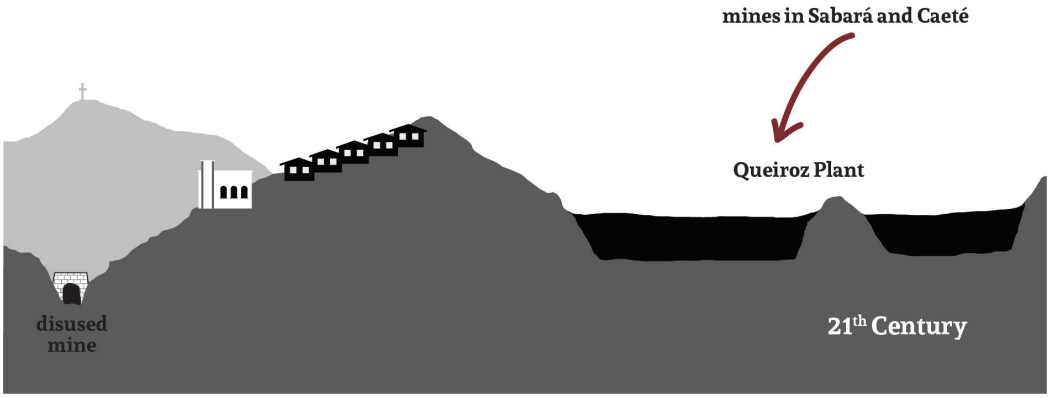


**Figure 4. Schematic drawing of the current Mingú profile, indicating the industrial plant operating with ore from other towns.**
Source: Own elaboration based on the Google Earth elevation profile, 2023.

Pointing to the lower and upper parts of the neighborhood, Luiza exclaimed: *"We are right in the middle of them! We are their target. We had to be very well cared for because of that!"*. In the lower part sits the old mine that had operated for more than two hundred years, and in the upper part, an industrial gold processing plant is still fully operational and processes ore from other mines in the region managed by the transnational company AngloGold Ashanti. In 1999, Mineração Morro Velho S.A. changed its name to AngloGold and, in 2004, joined forces with the South African company Ashanti. This is the situation in which Mingú currently finds itself — the consolidation of a regional logic of gold mining operations in a relatively short period of time compared with the two previous phases presented above is emblematic.

Residents realize that the number of people from the neighborhood who work in mining has reduced over time and that some miners have been distributed among other companies in the region. Furthermore, they also realize that there is a significant number of retirees and widows, who lost their husbands due to the dust. It is common for people to say, with a nostalgic tone, that today everything has changed, that neighbors no longer get together very often, and people rarely engage in collective endeavors. Over the years, and with the demand for new housing,

sometimes motivated by precarious situations, such as the case of women needing protective shelter from domestic violence, the mining company began to provide homes in buildings that had previously been dedicated for public facilities — as in the case of laundry rooms and bathrooms. Even the properties that housed the purchasing groups in the neighborhood have now received residents. Little by little, spaces for meetings and collective care have given way to housing. Today, residents feel a lack of public spaces dedicated to leisure. An idle piece of land belonging to the mining company was purchased by the town hall more than twenty years ago to house a sports court or a space for leisure and entertainment, but nothing has actually been done and residents' demands have been suspended.

In Luiza's testimony, the use of the word "care" attracts attention. Not only for attributing a human capacity to the company, but because of the apparent demand for policies and social actions of a compensatory nature, referring to other similar initiatives employed by the company during the twentieth century. While she recognizes that the neighborhood still faces various problems arising from the company's activities on a daily basis even after the closure of the mine, the range of possibilities seems to be restricted to the already existing terms of this relationship. Added to this is the lack of repertoire beyond the immediate problems of everyday life, which we understand, along with Mészáros (1993), as contingent consciousness, but not the necessary consciousness to problematize the relationship with the mining company and trigger its transformation. The damages and risks imposed by the company on the socio-spatial group are not in fact problematized. Despite being listed by Luiza, they are framed within a demand for "care", such as reparation and compensation, reproducing the company's paternalistic discourse of social responsibility. People in Nova Lima often say that the mining company is a "mother".

As for the public authorities, they cannot be counted upon. Nowadays they are much more concerned with meeting the demands of the richer neighborhoods that have proliferated in Nova Lima since the final quarter of the last century,[8] and which are deeply guided by a neoliberal logic that demands that residents "be their own entrepreneur". In the absence of any significant public authority initiatives, the relationship with the private sphere appears as a possibility of guaranteeing the fulfillment of rights and, thus, of better conditions for collective life. The discourse mobilized by the mining company is seductive.

8. Plots of land owned by the mining company in the northern portion of the town, on the border with Belo Horizonte, was used in several high-luxury real estate developments, creating a portion of the town well known for its concentration of extremely wealthy people. See Pires (2003).

“Good Neighborhood” is the title that the company gave to a newspaper that publicizes its actions. The motto that appears on the page regarding its “relationship with the communities” (within the sustainability section) on its website is “Encouraging people’s development is a commitment by AngloGold Ashanti”. The process is described in a vague manner: “with dialogue and cooperation it is possible to go further and provide conditions for communities to be the protagonists of their own growth” (Anglogold Ashanti, n.d.).

In the case of AngloGold Ashanti, it is clear that practices related to social responsibility were often structured by the company itself, sometimes even without the explicit requirement from legislation or the public authorities. Marina Welker (2009) highlights the way in which corporations organize themselves to ensure that the regulation of socio-environmental interventions is their own responsibility. With the emergence of the social responsibility industry, the expectation of companies is that such actions will generate dividends, since in addition to improving relations with government they will be better regarded by society and especially by consumers (Welker, 2009). In the case of Nova Lima, the town hall itself recognizes the role of the mining company in providing infrastructure works (Prefeitura Municipal de Nova Lima, n.d.). Propaganda is central in the construction of the popular imaginary, and is part of what Mirta Antonelli (2014) describes as the “new words of power” used by the supporters of supposed “responsible mining” as a way to legitimize and impose their ideological agenda — a pre-condition for extending their domain, neutralizing possible conflicts and promoting consensus regarding the inevitability of mining.

The participation of the Mingú group in compensation processes is carried out through specific instruments such as activities, meetings or public hearings that are defined by and promote the company’s interests. In such scenarios, the demands of residents are rarely met. Thus, participation is just a way of endorsing the company’s actions and policies. As Kapp and Baltazar (2021) argue, such practices work to preserve consensus (which is already established for mining) and are often mobilized to prevent gains in autonomy on the part of the group, contradicting the ideal of informed decision-making, with historical consciousness. There is a lack of freedom of choice, since options are given and there is no possibility of creating them collectively and recreating them over time (Kapp; Baltazar, 2021). Contingencies, such as dependence on the company along with the urgency to meet basic demands, become obstacles in developing the sort of class consciousness necessary for social transformation (Mészáros, 1993). No less relevant and even more tangible is the way in which, to this day, AngloGold Ashanti remains the owner of extensive areas in the neighborhood and the region.


Figure 5. Mingú and the mining viewed from above.
Source: Google Earth, 2023.

This phase coincides with several processes to ease environmental legislation related to the ongoing disasters in the Doce and Paraopeba Rivers Basins, with the rupture of the mining dams of Fundão (2015) and the Córrego do Feijão Mine (2019) — it is not only that these disasters are the result of these processes, but that they have also accelerated the dismantling of legislation in post-disasters (Zhouri, 2019; Laschefski, 2020). Even though ignored in public debate on the topic, Andréa Zhouri (2019) identifies as underlying questions the forms of corporative control over the processes of regulation, inspection, participation of society and even the determination of who is affected. AngloGold has significant political participation, especially considering certain actions such as the transfer of properties to the public authorities and financing socio-cultural programs, which are nothing more than tax waivers under the seal of "social responsibility". Such prestige is extremely advantageous for covering up the neoextractive strategies engendered by the company that contribute to the production of disasters.

The growing tension with the risk of dam failures, following what happened in Mariana and Brumadinho in the last decade, calls into question the predictability of disasters. The residents of Mingú live with the proximity of the AngloGold dam. Daily they face the risks associated with its collapse, along with the intrusive testing of warning sirens, the recurrent drowning of people and animals in the tailings and the possible contamination of soil, water and people with arsenic. The situation in the neighborhood demonstrates that the absence of a critical event (such as a dam

collapse) does not signify that the production of the disaster is absent from everyday life — on the contrary, the terror caused by the risk and the occurrence of everyday problems already dramatically affects the formation of the socio-spatial group.

## 4. Final considerations

We have sought, throughout this text, to highlight the production of disasters as an aspect of the continuity between extractivism and neoextractivism. This is what is evident in the nexus from the collapse of the mine in 1886 right up to the insecurity because of the dam in the present day. If under extractivism, destruction occurred directly within the extraction site, under neoextractivist logic, entire neighborhoods, whose residents do not even work in mining, become the target of any mining related damage.

In the case of Mingú, land ownership seems to play a central role in linking extractivism with expropriation. This can be seen in the way the mining company mobilizes property rights to control the production of the surrounding space — whether by creating a bond between the workers and the land and disciplining them to labor underground, or by trying to repair the damage caused by a landslide. Expropriation is a constant in the narratives. It appears in the material sphere, as in the case of Sebastião, who was deprived of the means of subsistence when he was convinced by the company to migrate from a rural area to live and work next to the mine, guaranteeing the exclusivity of his work. It also happens in the immaterial spheres of collective life, such as the disintegration of the group following the company's expropriation of spaces that it had given over to collective activities.

Even though the production of disasters and forms of expropriation permeate and determine the historical formation of the socio-spatial group, it is clear that there is a difficulty in the conscious understanding of these processes. Even though Luiza recognizes that being *"right in the middle"* is crucial for the group, she maintains her belief that the company, if pressured, can provide changes for the better. From the socio-spatial navigation through the three narratives, the way that each one addresses the context of instability produced by mining, we may assume that Luiza attempts to articulate what is immediate, a set of contingencies imposed by mining, with what she understands as being actually possible to do. The clue that the navigation offers is that the set of processes is not in fact problematized. Whether through the dissemination of ideologies (like working in the mine represents an "advance" compared to the "backwardness" of the farm, or that companies engage in practices of social responsibility out of benevolence), through the demobilization of collective associations, through the compartmentalization and codification of information, or even due to the urgency of a solution, the historical awareness of contradictions in socio-spatial processes and the possibilities of autonomy tend to be obliterated.

Thinking with Mészáros (1993), we understand the need for a shift from contingent consciousness to the necessary consciousness for socio-spatial transformation, which in the case of the ubiquity of mining involves revealing and denaturalizing extractive dynamics based on the understanding of disasters as production. But how may the shift from an abstract (academic) critical approach to awareness among socio-spatial groups occur? Moreover, how to expand the unstable navigation horizons of historically fragile socio-spatial groups?

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