

From Minas to ruins: the remaking of memory and landscape in the post-Brumadinho disaster

De Minas às ruínas: o refazer da memória e da paisagem no pós-desastre de Brumadinho

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Abstract: The collapse of the Vale dam in Brumadinho, Minas Gerais, in 2019 is considered one of the biggest social and environmental disasters and work accidents in the country's history. While victims were fighting for the right to reparation a year later, news began circulating regarding the construction of the "Memorial Brumadinho", financed by Vale S.A. This article analyzes the relationships surrounding the construction of this memorial to question what is being proposed amid the catastrophe as "public memory" and how it connects to the landscape and local heritage. If the region where the memorial will be built is historically known for its long history of mining activity, with the memory around the activity classified as Brazilian Heritage in the early 20th century and valued since then, in contrast, we observe the specificities of the recognition of a "sensitive memory site" where suffering is the keynote of the current narrative.

Keywords: Public memory. Landscape. Mining. Social and Environmental Disaster. Difficult Heritage.

Resumo: O rompimento da barragem da Vale S.A. na cidade de Brumadinho, em Minas Gerais, em 2019, é considerado um dos maiores desastres socioambientais e o maior acidente trabalhista da história do país. Um ano depois, enquanto as vítimas lutavam pelo direito à reparação, começou a circular a notícia sobre a construção do 'Memorial Brumadinho', financiado pela Vale S.A. Neste artigo, analisamos as relações em torno da construção desse memorial para colocar em questão a memória pública que está sendo proposta em meio à catástrofe e como ela se conecta à paisagem e aos patrimônios locais. Se a região onde será construído o memorial é historicamente conhecida pela sua longa trajetória de atividade mineira, com a memória em torno da atividade sendo patrimonializada no início do século XX e valorizada desde então, observamos, em contraponto, quais são as especificidades do reconhecimento de um 'sítio de memória sensível', onde o sofrimento é a tônica da narrativa atual.

Palavras-chave: Memória pública. Paisagem. Mineração. Desastre socioambiental. Patrimônio difícil.

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INTRODUCTION

In recent years, the state of Minas Gerais has experienced some of the largest socio-environmental disasters in the country's history. One of them was the collapse of a dam with mineral extraction tailings from the multinational Vale S.A. in Brumadinho. Millions of tons of 'mud' buried workers and residents, generating 272 deaths and eleven disappearances and spreading the trail of destruction around the region's rivers. The mud, as the media widely called it, those affected and the authorities involved, refers to a compound of waste resulting from the extraction of iron ore stored in the dam, whose composition and toxicity levels continue to motivate controversies. Despite the numerous uncertainties generated by the socio-environmental crime, a year later, while the victims were still fighting for the right to reparation, the construction of the 'Brumadinho Memorial' was announced in the vicinity of the place where the catastrophic event occurred. The work will be mediated by the mining company responsible for the gigantic tragedy, financing the new place of memory as part of the reparatory policy for the crime committed.

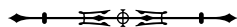
The new memorial will occupy a land of 1,200m² of built area. Future visits to this space, which will portray the lives of the fatal victims, will follow a route that passes through exhibition rooms and, in the end, will culminate in an open area, in which the viewpoint will be built with a view to the epicenter of the catastrophe. The site of the dam collapse, which was once a valley surrounded by the mountainous formation and which became the materialization of collective trauma produced by the booming volume of turned-over land and devastated human and non-human lives, will become an area of contemplation of the catastrophic landscape, in order to produce a type of memory.

In this article, we start from this emblematic case by thinking about the relationships between landscape, heritage, and memory in the post-disaster, considering them in relation to the historical heritage of Minas Gerais already constituted. Initially, we will present the historical

context of mining in the region, until reaching the conjuncture of socio-environmental crime that justifies the new memorial. Then, we analyze the narrative that space triggers about that territory and to what extent it supports a specific perspective on the traumatic landscape and its past. Finally, we will bring counterpoints to the *design* of this 'planned' reconstruction of memory and landscape in the devastated territory, emphasizing the ability of the affected local populations to respond, in their own way, to the neoextractivist practices of capitalism.

Our analysis proposes a dialogue with issues raised by other researchers on the subject, including Silva and Faulhaber (2020), in the article "Bento Rodrigues and the memory that the mud did not erase: the awakening to heritage in the (re)construction of identity in the post-disaster context", published in *Boletim do Museu Paraense Emílio Goeldi. Human Sciences*. While the authors demonstrate the uses and appropriations of heritage by the communities affected after the Samarco disaster in the municipality of Mariana, Minas Gerais, we seek here to analyze how mining companies also intervene in the landscape through the institution of landmarks for a "difficult heritage" (Meneguello, 2020), aiming to (re)guide the local collective memory. It is an institutional policy of reparation, which finds points of resistance, being absorbed by the populations linked in a cultural space, in which the existence of affections and ethics transcend the planning of the miners, generating new meanings for life and death.

In addition to the recent character and the large scale of socio-environmental destruction linked to the leaks in Mariana and Brumadinho, cases of study such as these unequivocally signal what has become the norm in Minas Gerais: since 1986 to the present, at least eight ruptures of tailings dams have been recorded, which left hundreds dead and thousands of people displaced, causing serious water supply problems (Zonta & Trocante, 2016). Turning attention to these cases allows us to analyze their exemplary character in the country, showing which landmarks for public memory are being produced



simultaneously amid the dystopia of successive tragedies in Minas Gerais. A memorialization of the present time, of mourning for post-disaster losses, which contrasts with the positive value of the state's 'historical cities'.

MINING AND LANDSCAPE: A HISTORY BETWEEN HERITAGE AND RUIN

To address the contemporary landscape of sites and life affected by mining in Minas Gerais, we must consider the importance of the activity in the official Brazilian history, which sometimes used narrative and ideological procedures to naturalize its socio-technical interventions in various territories. Under the explanatory key of the economic cycles, the beginning of mineral exploration stabilized as a founding landmark of the so-called 'mining civilization' (Machado, 1978; Vasconcelos, 2014). According to this perspective, the progressive colonial occupation occurred from the seventeenth century, with rapid growth at the beginning of the eighteenth century. The fever for gold, silver, and precious stones led to a demographic explosion in the region at a short interval. While the minerals were transformed into wealth, based on the continuous exploitation of the slave labor and the existing biome, the region became the scene of several conflicts between local explorers, including the bandeirantes against the Portuguese. This plot of conflicts reaches the events of the Inconfidência Mineira, which was later interpreted as a seminal movement for Brazilian independence – as nationalist discourses illustrate, in the context of the formation of the first Republic at the end of the nineteenth century (Carvalho, 1990).

In the following decades, the political urgency of composing the elements that would allow building an image of the Brazilian nation and a feeling of national identity was emphasized. This process culminates, in the 1930s, in the creation of the federal body for the study and defense of the national historical and artistic heritage. It was a project defended by historians, artists, politicians, and architects, many of whom were born in Minas Gerais, such as Rodrigo Melo Franco de Andrade, the first director of the National

Historical and Artistic Heritage Service (SPHAN). As Choay (2000, p. 120) observed, by stating that "the cult of the past monument coexists with that, quickly named, of 'modernity'", modernism also played a key role in Brazil in understanding the national past. The architectures and landscapes of the past became a substrate of the history of 'Brazilian civilization' that sought to be politically valued.

Several cities founded with the first consolidated fields of gold exploration in the eighteenth century began to be seen, in the twentieth century, as being in danger of disappearance and ruin (Gonçalves, 1996). The threat, in this case, was represented by the relative impoverishment of the population and the action of time in colonial architecture. The mountains and urban architecture were then combined, in their classification, as the cultural and environmental heritage of the country. This is the case, for example, of the 12 soapstone prophets sculpted by the Baroque artisan Antônio Francisco Lisboa (Aleijadinho) in the municipality of Congonhas, in the Bom Jesus de Matozinhos Sanctuary, whose scenario is a saw observed by the sculptor as a frame for sculptures that replicate figures from the Bible (Figure 1).

Over the decades, national recognition has achieved international accreditations, such as the titles of 'world heritage' awarded to the city of Ouro Preto, in 1980, and to the entire Bom Jesus de Matozinhos Sanctuary, in 1985, located approximately 100 km from Brumadinho. In this and other patrimonialized urban sites, natural and anthropogenic landscapes have gained importance in the composition of an atmosphere of the place, being associated with a certain image of national history. In these cities, the look and heritage reflect the visible surface representing something valued from the past. Visiting these places would inform tourists from the rest of the country about an important part of the national past.

However, the valorization of the Brazilian historical and landscape heritage coexisted with the continuous alterations and suppressions of territory in the regions that approach the perimeters the state listed. There is an underground history associated with the economic model adopted by the country,





Figure 1. Prophets in the Sanctuary of Bom Jesus de Matozinhos with the saw in the background. Photo: Sandoval de Souza (2020).

which has been mobilizing more and more researchers in recent decades (Zhour, 2018). From the end of the 17th century, the extraction of minerals integrated Minas Gerais into the colonial process and modernity as a source of raw material that served the foreign market. In 1942, under the dictatorial government of Getúlio Vargas, who authorized the creation of heritage agencies, the Brazilian State created the state-owned company Companhia Vale do Rio Doce¹. The company's headquarters and main area of operation are located in the so-called Iron Quadrangle, in the south-central region of the state, with a territorial extension of approximately 7,000 square kilometers and which occupies the position of the largest iron ore producer in Brazil, encompassing cities such as Brumadinho, Ouro Preto, Congonhas, Mariana, among others.

The region where several patrimonialized "historic cities" are located is the same that currently concentrates 72.5% of the mineral reserves throughout the country (Gomide et al., 2018, p. 189). For this industry, the mineral mass that integrates the zones close to the sites of the geological and environmental heritage already consolidated

in Minas Gerais becomes a private product when extracted, sold as a primary base for international industries with high profits. What was once a constitutive part of the landscape becomes, through numerous political and socio-technical processes, the object of a long history of expropriation of natural resources. In 2018 alone, the Paraopeba Complex, which encompasses a set of dams located in and around Brumadinho (including the one that collapsed), produced 27.3 million tons of iron ore to serve the European market (Ragazzi & Rocha, 2019).

The history of Minas Gerais shows that the wealth of the mining industry is maintained insofar as it produces an irreversible transformation of the environment and the territory. In many places of the Iron Quadrangle, what could be classified as part of the natural landscape heritage became gigantic holes and deposits of toxic tailings. The advance of economic exploitation produces a device of continuous destruction that wins the spotlight of the national media in times of great tragedies, as in the monumental case of Brumadinho. However, in general, multinationals such as Vale are endowed with strong lobbying power, obtaining the support of successive governments to continue hurting native biomes and ways of life, such as a machine that transforms the existing into ruins and advances the trail of destruction that characterizes the Anthropocene.

Large-scale mining action requires thinking of infrastructure and ruins as dimensions combined with each other, as parts of the same process:

Ruin calls attention to both the constructive and destructive nature of infrastructure. Ruins remind us that infrastructures have the potential to offer numerous benefits but that they are also ultimately incapable of forever satisfying the tasks they are meant to carry out (Howe et al., 2016, p. 7)².

¹ In the early 2000s, the mining company Vale do Rio Doce changed its name, with its privatization, becoming only Vale S.A., becoming a publicly traded multinational. The ironic and sad thing about this story is that the Doce river, which gave its name to the company for almost half a century, was destroyed by another tragedy caused by the mining company itself in 2015.

² Our translation. "Ruin calls attention to both the constructive and destructive nature of infrastructure. Ruins remind us that infrastructures have the potential to offer numerous benefits but that they are also ultimately incapable of forever satisfying the tasks they are meant to carry out" (Howe et al., 2016, p. 7).

The context in which the city of Brumadinho is inserted – a political and symbolic territory in which heritage, economic exploitation, and active production of ruins are articulated – shows us that the landscape should not be observed as an external scenario, pre-existing and independent of people and institutions. More than a place to contemplate or visit occasionally, it results from various processes of creation, transformation, and destruction over time. Therefore, it must be analyzed as a set of relations in a continuous transformation articulating human and non-human forces (Ingold, 2000; Latour, 1994; Simmel, 1996). Analogously to 'heritage', the landscape is collectively constructed and signified, acting as an agent in the constitution of their collective identities, guiding specific forms of relationship of human beings with the existing, including their devices for memory.

THE CATASTROPHIC LANDSCAPE AND THE MEMORIAL

The collapse of the dam in Brumadinho, at the Córrego do Feijão mine, has been considered by analysts and social entities as the largest socio-environmental disaster in terms of human life loss and the largest occupational accident ever recorded in Brazil. In the moments following the collapse of the 86-meter-high dam and supported by a grassy earth slope, 13 million cubic meters of iron ore tailings descended in the form of a frightening wave. It reached a height of 30 meters, dripping at 120 kilometers per hour, destroying everything along the way. The leak caused devastation in the company's administrative and operational structure, reaching and burying communities, houses, farms, and local heritage.

The tragedy immediately claimed more than 270 lives, including many mine workers and surrounding residents. In the following days, in a chain reaction, the mineral tailings – which float on water and do not dilute – traveled about 300 km of the Paraopeba River and affected the entire river basin, annihilating where the existing life passed. In total, 22 municipalities bathed by the river were impacted, causing interruptions in life and economic projects, impoverishment, real estate devaluation, future uncertainties, psychological disorders, and stigmatization of food products in the region and its producers.

The mud affected the entire ecosystem, killing millions of fish and reducing amphibian populations, such as frogs, which increased mosquito-borne arboviruses (dengue, zika, chikungunya, and yellow fever)³, but also spiders, ticks, among other insects. Moreover, a considerable part of the Paraopeba river channel has been silted, which since then has caused an increase in floods. Parts not previously occupied by water during the floods of the rivers began to be affected by water loaded with toxic mineral tailings. In 2020 and 2022, these floods took part of the tailings deposited at the bottom of the river to the soil of the banks, which caused, among other consequences, a reduction in the capacity of water infiltration into the soil, a decrease in soil fertility, with the decrease in the growth of the roots of the plants, contamination of the entire food chain of the region, including the people who live there, by the increase in the incorporation of metals⁴. Thus, the tragedy is a continuous event that did not end with the collapse.

Pointing out the traumas and mental disorders that remained after several months of rescuing bodies resulting from the tragedy, outsourced workers remember, in

³ According to the Minas Gerais Health Department, the number of dengue cases in the 22 municipalities affected by the dam collapse increased from 859 in 2018 to 77,741 in 2019. Zika's went from 23 to 309. In Brumadinho alone, they went from 25 in 2018 to 2,105 in 2019. In the region of Mariana, where the Fundão dam collapsed in 2015, a study conducted by the Getúlio Vargas Foundation (FGV) in 2019, based on the notification system of the Unified Health System (SUS) (Notifiable Diseases Information System - Sinan), shows that the incidence of chikungunya fever increased in 38 of the 45 municipalities affected; that of acute Zika virus disease, in 39 municipalities; yellow fever, in 30. Dengue case records increased 10 times more in the 45 municipalities affected, in Minas Gerais and Espírito Santo, than in the control municipalities – which are in the same region, but were not directly affected by the tragedy.

⁴ On the subject, see the study conducted in the region by researchers from the Center for Advisory to Communities Affected by Dams (NACAB, 2020).

daily contact with the toxic mud, the attacks of snakes and poisonous animals, as well as bees, caused by this imbalance, of which they are now part and of which, at the time, they tried to defend themselves with unsatisfactory personal protective equipment (PPE). Both these workers and the general population point out that aspects of the region's landscape present to them several triggers that potentiate the trauma caused by the tragedy⁵. The floods of the Paraopeba River, for example, have brought since then 'the bad smell of the day of the collapse'. It is what Tsing (2019, p. 16) calls the "feral kingdom," that is, "fierce life takes advantage of human disturbance to do its own things." Beyond control dreams is the Anthropocene, a planetary era marked by the scope and emerging scale of disturbances and their threats to the lives of various species (Chua & Fair, 2019).

This scenario of the catastrophic crime, composed of the destructive revelation of the tons of tailings, which should remain hidden under the earth, reversed the usual order attributed to the human and natural elements that made up the landscape from top to bottom. Not by chance, still under the effect of the terror experienced after the immense toxic leak, the firefighters, police officers, family members, and volunteers who gathered to conduct searches of those missing after the disaster named such people as 'jewels', as a precious asset that historically is sought through mining activity, an underground work. In this case, however, the jewel does not correspond to an economic heritage but family and human. The relatives, friends, and neighbors of the missing people began to

represent the buried in the form of a central symbol of the narratives that make up the first identity of Minas Gerais, linked to its patrimonialized cities.

A year after the tragedy, and while the victims remain fighting for the reparation of rights and still seeking bodies under the mud, several communication channels reported the construction of the 'Brumadinho Memorial', in honor of these buried 'jewels' and the site of the traumatic event⁶. In March 2020, the choice of location and project was made, and the members of an association affected by the tragedy – the Association of Family Members of Victims and Affected by the Collapse of the Córrego do Feijão Brumadinho Mine Dam (AVABRUM) – chose between two different architectural proposals presented by Vale⁷. The winning proposal was prepared by the office of the architect Gustavo Penna, a well-known professional in Minas Gerais, one of those responsible for the construction of a museum dedicated to the work of Aleijadinho, in the 'historic city' of Congonhas, which, as already said, is part of the Iron Quadrangle. He is an architectural professional recognized by the trademark present in his projects.

In contrast to the historical heritage recognized along with the oldest cities of Minas Gerais, the 'Brumadinho Memorial' does not aim to safeguard material goods with antiquity and authenticity value that play a positive cultural role in nationalist discourses and local identity – mining –, presenting signs of an idealized common origin. In contrast to the institutions guided by the aesthetic or historical value attributed to their collections, the memorial project emphasizes the feelings that would singularize the

⁵ As reported in the newspaper website O Tempo (Alves et al., 2021).

⁶ While museums, in general, can function as institutions of research, exhibition, teaching, conservation, or safeguarding of collections related to the most different areas of knowledge, in addition to history, memorials tend to emphasize the memorialistic objective of certain characters, events, temporal, or spatial landmarks, important for the identity of a collectivity (ethnic, local, national, etc.). They may or may not be endowed with collections, even if, if so, they are restricted to those linked to their theme of vocation. There are, of course, intermediate cases that complexify the conceptual distinction between memorials and museums, as exemplified by the 'museums of memory' (Didi-Huberman, 2017) and the so-called cultural centers, of a heterocyclic nature.

⁷ In the term of reference for the architectural design of the project, the mining company states that "the memorial origin was from listening to the communities involved, government, and dialogue with family members, especially with those represented by AVABRUM" (Vale S.A., undated). Therefore, it points to the origin of the project as coming from families, followed by a consensus established with the company and the government.



emotional community of the victims, who faced irreversible losses in their family, friends, work, neighborhood networks, etc. The proposal includes the registration and display of the names and portraits of each of the fatal victims, serving as a space for visitation and expression of collective pain for local residents and tourists sensitized by the tragedy. It is, therefore, a memorial guided by emotion and grief, which poses important questions about the type of political and architectural strategy to be adopted to deal with the negative memory of a trauma. According to the company, which treats the construction of the memorial as part of the reparation policy put into action in the territory, the space should favor the future political recognition of the area as a 'sensitive' or 'emotional' memory site (Fabre, 2013; Castriota, 2019) – a notion close to that of 'difficult heritage' (Logan & Reeves, 2009; Meneguello, 2020), triggered in other cases of catastrophic losses and involving suffering, whether in Brazil or other parts of the world⁸.

The land for constructing the new memorial, in an area of five hectares, acquired by the mining company, is located in the vicinity of where the collapse occurred, followed by the large wave of toxic tailings. The construction will be made in apparent concrete mixed with red earth, creating a sense of continuity between the tone of the turned earth and the memorial itself. Furthermore, this new memory space (Nora, 1993) was designed as a long crack on the ground – to refer to the idea of a crack –, complemented by exhibition rooms that produce a game of light and shadows, with spaces with little lighting, which precede access to open and sunny areas.

The memorial, which, according to the mining company, is already under construction, will have three

thematic spaces: Pavilion, Memory Space, and Witness Space, which will be connected by a crack (Figure 2). According to the online page of the responsible architect, the first space to be accessed, the Pavilion, is characterized as a dark environment, indicating the metaphorical relationship established between the architectural production of a 'dark' space and the tragic experience of being under the mud, which will be dramatized to future visitors:

On the ceiling only cracks of light, as if the wave was hitting the building and extinguishing the sun. Experiences and sensations that prepare us for what is to come. . . . The darkness talks about this mud that even before arriving with its overwhelming impact, raised a dense dust that covered the sun and dyed the day at night. The first awareness of despair was this absence of light⁹.

Then, the path of the visit continues towards the Memory Space, which is characterized by the irregularity of its material forms, with "skewed walls", not parallel. In them, on the ceiling and part of the floor, images of the victims will be projected, before the tragedy, among other audiovisual resources, which aim to generate "an experience of impact", in order to mobilize visitors and "honor the lives of those people".

The visitors' journey will culminate in Witness Space, a part of the crack that connects the exhibition spaces and where there will be, above the level of the people, a "suspended sculpture, a great head that feels and cries", informs us the architect. The sculpture in question corresponds to a square form of concrete, supported under only one of its ends, which encompasses two complementary meanings: first, to assume the symbolic position of emulating a (human) face that cries, something

⁸ The discussion on sensitive heritage is relatively recent and remains on the agenda. The category 'sensitive memory site', for example, was summarized in a 2018 document, prepared for the International Coalition of Sites of Conscience, which defines these locations as "a specific location with architectural or archaeological evidence, or even with specific landscape characteristics, which can be related to the memorial aspects of the place" and also "are places that are covered with historical, social, or cultural meaning because of what happened there in the past. Such places can be of particular significance given their role in shaping the identity of a community or nation" (Castriota, 2019). Nonetheless, this article does not aim to delve into this discussion involving heritage categories, but rather to analyze the narrative about the traumatic landscape that the memorial triggers.

⁹ This and the next citations are based on the material available in Gustavo Penna Arquitetos & Associados (undated).





Figure 2. Projection of the interior of 'Brumadinho Memorial'. Source: Gustavo Penna Arquitetos & Associados (undated).

produced through the insertion of water sources, which will flow from the highest face to reach the height of the visitors. Secondly, the architectural position of the figurative, square 'face' is based on the idea of imbalance, as something that is out of line – the project mimicking, under the language of architecture, the expression of pain of victims and family members. Still, according to the architect, the tears of that sculpture descend, forming "a veil on the concrete walls, behind which are the remaining segments of the victims". Projective strategies to sensory, emotional, and intellectually mobilize visitors to include the indication of the material presence of what is left of the fatal victims themselves, with themselves – their body parts – serving to intensify the effects of the architectural allegorization of the tragedy.

At the end of the crack, which connects the spaces of the memorial along more than 200 meters in length, there will be a viewpoint overlooking the area of the collapse, where "the landscape of the valley is revealed; a surface that was hit and dyed by the mud". By including the construction of this viewpoint, the project proposes that a new observation point and relationship of the catastrophic landscape be established there – in the exact place where

the mountain existed with the mine before¹⁰. On its sides, the path will be complemented by a forest of golden trumpet trees, whose number of trees will correspond to the total number of fatal event victims. According to the architect responsible for the project, the golden trumpet tree would be a "tree symbol of Brazil" and its periodic flowering cycles would refer to the cyclical movement of life.

The architectural project proposes a visiting route that articulates elements internal and external to the memorial itself, either of the images and materialities that will be selected by the curatorship or by the framing given to the surrounding landscape. Ideally, each architectural solution of the space under construction will correspond to a stage of dramatization and ritualization of memory around the collective trauma of 2019, ranging from the most sinister (dark) aspect to culminating in an open, wooded, and flowered area, at a certain time of year (Figure 3). Faced with the horizon that unfolds at the end of the visit and questioning the project contracted by Vale S.A., we wonder, however, what the landscape is expected to project to visitors. In the face of another dark heritage, taking advantage of the question asked by Didi-Huberman (2017, p. 34): "What is a horizon in this place designed to dissipate all hope?".

In the case addressed by Didi-Huberman (2017), he refers to the context of musealization of the Auschwitz concentration camp, where reception structures were built for numerous visitors, which accompany an exhibition script, which emulates materialities and sensory effects of the past to produce a certain type of memory and experience. The author asks whether the pedagogical strategies of memorialization do not, after all, produce a 'fictitious place' in the very terrain where the tragic history unfolded. Instead of following the predefined itinerary for visitors, he proposes that people's attention in that space turns mainly to what is absent and what has been destroyed, which exceeds the Auschwitz State Museum.

¹⁰ The information mentioned about the memorial is based on the description provided by the architecture office responsible for the works (Gustavo Penna Arquitetos & Associados, undated) and the description provided by Vale S.A. (2020).



Figure 3. Projection of the exterior of 'Brumadinho Memorial'. Source: Gustavo Penna Arquitetos & Associados (undated).

He argues that looks interested in somehow accessing the history of past events should turn to the soil and “to the vestiges of everything that has been demolished” (Didi-Huberman, 2017, p. 35). Instead of a contemplative look, instructed by what the builders of the museum mediated, it would be more effective if it relies on an archaeological look, which understands the value that is under everything that follows hidden. Look like someone who tries to reveal physical and symbolic concealment, either of the earth or memory, both endowed with depth.

DISPUTE THE LANDSCAPE, REMAKE THE PUBLIC MEMORY

While the construction of the memorial space founded by Vale in Brumadinho continues, the mining company is erasing other memories. In the neighborhoods Parque da Cachoeira and Córrego do Feijão, which were partially taken by the mud and are located very close to the land where the memorial will be built, there are reports of the demolition of houses that had remained standing after the socio-environmental crime (Aedas, 2021). In a situation after the disruption of structural damage and devaluation of the properties, the mining company bought several

houses and left them abandoned, being then taken by bush, garbage, and outbreaks of dengue¹¹, which generated an increase in crime in these areas and abandonment of the region by the remaining residents. This situation is part of the continuous violations of rights outside the memorial and continue to happen, made invisible by the company.

Another point that we consider important to address in the characterization of the new memorial in Brumadinho is its attribution of 'public architecture' – as stated in the term of reference issued by the mining company to guide projects presented by the architecture offices pre-selected by it (Vale S.A., s/d). In this regard, the 'Brumadinho Memorial' reflects an essential dimension of several other memorials and monuments that question the meanings associated with the notion of 'public' – tacitly associated with democratic contexts – and the idea of 'participation' (Young, 1992; Pereira, 2021a, 2021b). As with the so-called 'public art' (Deutsche, 1992), the memorial architecture is justified to the extent that Vale S.A. encompasses the families of the fatal victims and the others affected by socio-environmental crime as part of the agents who would define the destinies of the project. Participation, however, is modulated in a position of evident asymmetry between the victims and the mining company.

First, only those linked to an association of victims' relatives (AVABRUM) were heard. This choice, moreover, results from conditions predefined by the company responsible for the disaster: it called four engineering offices at its discretion and chose, among its projects, two to be put to online voting on a website. The remote and non-presential character of the procedure accentuates the deterritorialization initiated by the leakage of toxic waste that, just over a year before, had destroyed houses, farms, and lands, as well as the pre-existing affective and anthropic landscape. Once the winning office hired by the company was announced, the 'participation' of the 'families' of the victims would have been ensured by a 'careful listening' to their expectations.

¹¹ Again, “fierce life takes advantage of human disturbance to do its own things” (Tsing, 2019).

At this point, however, the discourse of a good relationship with the 'community' as a legitimizer of the memorial project itself, as a type of reparatory activity in terms of collective memory, contrasts with the reality experienced by many residents who still remain without compensation, drinking water, food for their animals, among other violations resulting from the continuous losses generated by Vale. In June 2020, a judge working in the district of Brumadinho issued an injunction prohibiting protests from family members and those affected. Strategically, the victims concentrated at the entrance to the city and before the company's gates to publicly manifest the demand for reparation. The request for justice was then transformed into a fineable misdemeanor. Eleven affected by the effects of the mining company's leak became defendants in court for continuing to manifest themselves. On the other hand, on February 4, 2021, the company closed a financial agreement with the State and the justice institutions without the participation of the affected families, who unsuccessfully appealed to the Federal Supreme Court (STF) in a negotiation process that took place under legal confidentiality. With this agreement, the collective and diffuse damage that the company caused was resolved by negotiation in the courts, and, as a consequence, it can continue to operate in the international commodities market without problems with Brazilian justice.

Besides, the 'public' character projected on the new memorial can also be questioned when we consider that the land on which it is located is not part of the local public heritage but has become a private possession of the company, which will control the access and use of the built space. In this scenario, the creation of the memorial assumes the position of a remarkable way of expressing the mining company about

the catastrophic event that it caused, intervening in the public space and the landscape under the sign of 'memory'.

The case is similar to what currently happens in the district of Bento Rodrigues, the first community destroyed by the collapse of the Fundão dam in 2015, also owned by Vale S.A. (Dupin & Machado, 2020). The place is currently being listed at different levels¹², in a category called 'sensitive memory site', a perspective of patrimonialization "that seeks to overcome the traditional perspective of conservation-based-in-matter" for the "conservation-based-in-values", that is, containing meanings that came to have by the technological disaster, whose "remnants of the old village are essential elements, support for the formation and transmission of a collective memory" (Castriota, 2019).

For the designation as a landmark, it will be necessary to consolidate the ruins in different states of deterioration and on which nature imposes itself, treating them with products and preventing them from dissolving. The idea is for Bento Rodrigues to become an outdoor museum or memorial, with signs, photos of what the houses affected by the dam collapse looked like, and containing information about mining in the region. Nonetheless, the question of Bento Rodrigues is complexified from the character of the action and the relationship of the community and the company causing the tragedy with the place.

After the disaster, the company isolated Bento Rodrigues, but since 2016, a group of residents usually spend weekends in the district, which tensions the conflict between the company and the former residents¹³. The latter see in the listing the designation as a landmark of not being able to return to the place and losing their homes for the second time. Currently, the Public Prosecutor's Office is negotiating

¹² In the municipality, the discussion has taken place since 2016, when the Mariana Heritage Council (COMPAT) started a designation as a landmark process. Some real estate has already been designation as a landmark individually, such as the Church of Nossa Senhora das Mercês, in Bento Rodrigues, and the Church of Santo Antônio, in Paracatu. At the state and federal levels, in May 2019, a dossier prepared by researchers from the School of Architecture of the Federal University of Minas Gerais (UFMG) was delivered to the State Prosecutor's Office to start the designation process, which involves a technical work by the teams of the State Institute of Historical and Artistic Heritage of Minas Gerais (IEPHA) and the Institute of National Historical and Artistic Heritage (IPHAN), with a view to conducting a survey of what is on the historical site.

¹³ It was only after a lawsuit that they were able to gain access to their homes.

an agreement with the company, the city of Mariana, and the government of Minas Gerais, to expropriate the district's houses. Residents, who still live in relatives' houses and properties rented by the mining company or hotels in the headquarters of the municipality of Mariana, in the city's downtown, away from family ties and long-cultivated coexistence (Cagriota, 2019)¹⁴, complain that the community was not consulted about the designation as a landmark (even if those responsible for the designation dossier say otherwise)¹⁵. It is also worth mentioning that in 2016, by a state decree, there was the expropriation of a part of the district for constructing a new mining dam, conducted with the justification of containing the tailings that still descended from the dam. At the time, this was the subject of protests from residents who had their properties flooded by the work and had not received any compensation from the company.

In both cases, the designated ruins of Bento Rodrigues and the new place of memory in Brumadinho are designed as places to remember traumatic events and their fatal victims; they bet on the evocation of a collective feeling as a 'loss of all' and thus avoid addressing the long history of demonstrations and social struggles for the rights of those affected by dams and miners active in Minas Gerais. Taking advantage of the mourning to generate a diffuse feeling of solidarity for the victims of socio-environmental crimes, constructing these memorials materializes intentionality in perceiving the landscape and its relationship over time.

As Cagriota (2019) states:

[If] for a long time the preservation of heritage was related to the commemoration of a grandiloquent national memory and engendered by governments and public agencies, highlighting the objects and locations related to official narratives about the past . . . this perspective has recently changed, with the expansion of the concept of heritage and the significant displacements suffered by the countryside in recent decades. . . . There is a growing international and national interest in what has become known as the 'heritage of pain' or 'difficult heritage'.

Although recalling the fatal victims is an important stage in the reparations their families and friends demand, the memorials that the mining companies will finance present a dystopian memory that emerges with the great mining disasters. In them, a narrative of catastrophic events prevails that tends to minimize the continuous conflicts generated by the exploitation and ruin of the landscape as it was previously perceived and experienced by local communities. Instead of observing the landscape as a marker of the passage of time and the effects of mining in general, the memorials focus on a specific time event to singularize them, isolating them from the chain of events and changes in the environment caused by mining for centuries.

OTHER MEMORIES: AWARENESS AGAINST THE MINING MODEL

It is worth mentioning that one of the elements involved in the political game of the territories affected by these tragedies, which became the norm in the development model adopted (Zonta & Trocante, 2016), is represented by the strategies that are installed to rebuild the landscape and insert the memory considered relevant in the remodeled space, also seeking to define those that should not be registered. For local communities, disputing for memory is a way to fight for the future and social justice. In such contexts, the evocation of the discourse of 'struggles' has been fundamental to point out who are or are not the affected subjects, who are those considered responsible for the tragedies and how they occur, implying the affirmation of identities, rights and forms of reparation that must be performed. Finally, if, on the one hand, memory itself is presented as part of a reparatory policy, on the other, it is linked and conditioned to a series of other policies to be implemented or not and, therefore, there is a dispute to inscribe it in the landscape (Figure 4).

¹⁴ Six years after the tragedy, no resident has yet been resettled.

¹⁵ For more information, see Maciel (2019).



Figure 4. Memorial in the Archdiocesan Shrine Our Lady of the Rosary, built during the 'Pilgrimages for Integral Ecology'. Photo: Francielle Oliveira, available in *Cáritas-MG* (2020).

In line with what feminist anthropologists point out (Tsing, 2015; Haraway, 2008; Stoetzer, 2018), ruins can be understood not only as traces of an end but as a beginning. Addressing catastrophe contexts, these authors argue that life has not ended and that the grammar, knowledge, and memory that make up this dystopian future, expressed in the landscape, should be researched. It is important to go beyond destruction and situate analysis in the desire to forge new connections that emerge and ask how tragedy prepared the scenario for changes in connectivity (Stoetzer, 2018). In the case of Brumadinho, ask what types of memory, sociability, and landscape are in dispute, produced in such spaces after the trauma.

The dynamics of life continue to shape the territory built by the sum of multiple actors, who emerge from the 'opportunity' seen in new ways that go beyond carefully managed reconstruction, returning heterogeneously and unexpectedly to the rubble of a highly threatening economic activity¹⁶.

In this scenario, there is an increase in organized movements in the fight against the mining model

(Wanderley & Gonçalves, 2019). Acting in the state and the region, we have the National Committee in Defense of the Territories in Front of Mining; the International Articulation of People Affected by Vale (AIAV); the Movement for Popular Sovereignty in Mining (MAM); the Churches and Mining Network; the Movement of People Affected by Dams (MAB), as well as universities and dozens of non-governmental organizations. These and other local actors, organized in different forms of collective participation, seek to insert their memory into the landscape to draw attention to the destructive character of the activity. Thus, they aim to ensure that the victims of mining tragedies are repaired for the socio-environmental damage caused and for the violations of rights suffered, without this happening from the perspective of the criminal company itself.

To conduct material bases of reparation and avoid further tragedies, fighting for a reparation policy that inscribes its own memory in this space is necessary. Thus, other memorials – but also other ways of inscribing memory in the landscape beyond these demarcated spaces – have emerged in the landscape affected by the hands of other actors (Figure 4). An example is the 'Pilgrimages for Integral Ecology', held annually since the collapse, in the unbirthday of the tragedy in Brumadinho. Organized by the Archdiocese of Belo Horizonte, together with pastoralists, social movements, non-governmental organizations (NGOs), and other civil society entities, these events draw attention to the multiple catastrophic dimensions of the activity. Regarding the effect of their memorialistic actions, as stated by their organizers, what is created through their construction in the events, is:

... a memory that makes present and live the daily life of crime. When we have a space that thinks this contact with the victims, the recognition of these people is beyond the fact that they are not forgotten. It is so that they are always present, fueling resistance and the fight for justice¹⁷.

¹⁶ Recent anthropological research on mining emphasizes that the activity involves not only changes in landscapes, but also complete cosmological transformations (High, 2017, p. 22).

¹⁷ Statement of sociologist Leila Regina da Silva, who was working at the time on the construction of one of these memorials. On the subject, see *Cáritas-MG* (2020).

In other words, it is a memory produced as a complaint and that mobilizes feelings as a form of commotion against the mining model historically producing socio-environmental tragedies. These actions mobilize "emotional mechanisms for confrontational collective action", to take advantage of the expression of Losekann (2018). In these ritual spaces of encounter, subjectivities are demarcated that mobilize the fight against the activity and give dimension to the diversity of affected peoples (indigenous, quilombolas, riverine communities, peasants, etc.) by mining enterprises in this and other regions, among others, thematizing the issue of the preservation of natural resources, such as water, different from the monumental project proposed by Vale.

The differences are not only from perspective, but from how the memorial is inscribed in relation to space: in the official path of the polluting company, as a new perennial work of architecture, a material creation that would share a certain auratic dimension of art, even if classified as 'public art'. The actions of the residents are also different from the public development policies implemented, from building something new about what happened. The dystopia inscribed at the beginning of the 21st century, from mining, contrasts with the portrait of wealth's local and national identity, registered at the beginning of the last century and built under the strong influence of economic activity.

Contrary to the perspective adopted by the 'Brumadinho Memorial' (Figure 5), with its 'lookout point' for tragedy as an exceptional event of the past, as a painful and allegorizable error to ritualize mourning, popular forms of memory articulation accentuate the character of the landscape as a territory of life and continuous exploitation for centuries. In their way of acting, the social and popular movements dispute the memory of the territory in the key of political and affective archaeology that since the ruins of the present, allows narrating a long and complex history that vitally interconnects its members of yesterday and today.

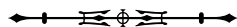


Figure 5. Memorial built by those affected at the entrance of Brumadinho inscribes through photos the memory of the victims of the collapse in the landscape. Photo: Francielle Oliveira, available in Cáritas-MG (2020).

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L. V. Dupin contributed with conceptualization, formal analysis, investigation, methodology, project administration and writing (original draft, review, and editing); and E. Pereira with conceptualization, investigation, methodology, and writing (original draft, review, and editing).



