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# THE REPRESENTATION OF THE TRAGEDY IN MARIANA: BURIED PHOTOGRAPHS AND SURVIVING IMAGES

# **ABSTRACT**

In this essay, I present an investigation process based on images produced about the tragedy of the Fundão tailings dam rupture, at the Alegria complex of the mining company Samarco (controlled by Vale and BHP Billiton), in Bento Rodrigues, city of Mariana (MG). Through the journalistic and artistic photographs that tried to reveal what had happened, I have sought to analyze the notion of disaster and the representation used to classify and portray this tragedy. Furthermore, as of questions arising from this brief analysis, I have proposed a work of deformation, montage, and restitution of those images, as a way of playing with metaphors from the remaining leftovers.

keywords

Mariana; Disaster; Photography; Image; Montage.

# INTRODUCTION

When attending two Visual Anthropology courses during the second semester of 2016<sup>1</sup>, which aimed to encourage students into working with images of their own research, I thought that the fact of not having started a fieldwork yet as well as not having images produced by myself would not culminate in a problem. In a way, I was mistaken – and this text is precisely about the unexpected challenges I have faced in this process and how I have tried, in a practical way, to solve them through a work of deformation, assembly, and restitution of images.

My doctoral research investigates missing photographs in the tragedy of the Samarco mining dam (controlled by Vale and BHP Billiton) rupture in Bento Rodrigues, a district in the city of Mariana (Minas Gerais). Although the research concerned missing images and the invisible, I have decided, as numerous images had been produced about the disaster, to use some of them in classes to exercise the editing works proposed by the teachers. However, while looking for such images, I realized that none of them was able to fulfill the work proposal, thus, a fundamental question arose from this discontent: how can a tragedy be represented?

Photographs produced by journalists or photojournalists on the tragedy of the Fundão dam rupture were, mostly, beautiful photographs, but they said little or nothing about the tragedy. This issue has deep roots. Eliane Brum (2015), in an article for the *El País*, asks: "What kind of Guernica can be painted considering the work of Samarco, the mining company belonging to the Vale (previously called "Do Rio Doce") and the Anglo-Australian BHP Billiton?" Guernica, as we all know, is the panel painted by Pablo Picasso in 1937, representing the bombing of the city of Gernika by German planes, acting in support of General Franco. Picasso painted it in a Cubist style and usually referred to it as a work that had not been made to decorate apartments. When concerning Guernica, Eliane Brum is questioning precisely the tragedy depiction: "Perhaps it would take another avant-garde movement in art to account for the excess of reality" (Ibid., 2015).

<sup>1</sup> The courses are "Advanced Topics in Knowledge Modes and their Expressions: Experiences and Trajectories I – Anthropology and Image II", taught by Prof. Dr. Fabiana Bruno and offered by the Graduate Program in Social Sciences, in the University of Campinas; and "Visual Anthropology", taught by Prof. Dr. Andrea Barbosa and offered by the Graduate Program in Social Sciences of the Federal University of São Paulo. I thank Fabiana and Andrea, as well as the colleagues from both classes, for the debates held in class and for the suggestions that have been made for my work – many of which are present in this text.

However, it is not a matter of assuming Claude Lanzmann's position, for example, for whom the Shoah is un-representable. We find an interesting debate on the tragedy depiction in Georges Didi-Huberman's book (2012), *Images in spite all*. In it, Didi-Huberman writes about "the four images ripped from the Auschwitz hell," in which there are four photographs taken hastily from the crematory V by a member of the *Sonderkommando* and sent out of Auschwitz inside a toothpaste tube. The photos, protagonists of the exhibition *Memoire des camps – Photographies des camps d'économie et d'extermination nazis 1933–1999*<sup>2</sup>, held in Paris in 2001, are considered by Didi-Huberman (Ibid.) "testimonies of those who have succumbed" and they can make the hell that was Auschwitz at least imaginable. Lanzmann, however, will criticize him for this text by arguing that Didi-Huberman makes these images the *whole image* of the Shoah, which ultimately destroys all other images. For him, these four photographs are fetish images, and nothing is gained by showing them. His position is dogmatic: the Shoah is *un-representable* and *unimaginable*.

Even though this theme can be further elaborated beyond this debate, regarding the proposition to be developed in this work, it is interesting to point out that Didi-Huberman rejects Lanzmann's criticism, arguing that "the whole image of the Shoah does not exist: not because Shoah is unimaginable by law, but because the image is characterized, in fact, by not being a whole" (Ibid., 110). Such point intertwines with this work's development because when resorting to the images of Mariana's tragedy my intention was similar. Although unconsciously, I was looking for images that depicted the tragedy of Fundão as a *whole*.

However, in this same book, Didi-Huberman (Ibid., 52-55) further states that the difficulty with the images exists because we either ask too much from them, when they are inadequate and even inaccurate, or either ask very little, relegating them to the sphere of documents, illustrations of testimonies, as if they were not capable of witnessing on their own. These two ways of paying attention to images, hypertrophying them ("wanting to see everything in them", "turning them into icons") or numbing them ("seeing nothing more than a document"), are, according to the author, unable to help us.

Thus, if the images could not offer every dimension of the tragedy – and of course they could not – it was not because they were deficient, but because I demanded everything from them. I did not know how to look at them or to accept what they offered me. I have wondered, then, what do those silent and problematic images say? How could one think of tragedy with those images? And, of course, how could I, through this mute saying of the images, find the tragedy representation the research proposed?

<sup>2</sup> Curated by Pierre Bonhomme and Clément Chéroux.

# THE DISASTER FROM AN ANTHROPOLOGICAL PERSPECTIVE

On November 5th, 2015, the Fundão dam at the Alegria complex, of the Samarco mining company, broke and dumped more than 60 million cubic meters of tailings from iron mining over Bento Rodrigues, in the city of Mariana (MG). These residues have followed the stream from the Gualaxo do Norte and Carmo Rivers until reaching the Doce River, where they would cross the states of Minas Gerais and Espírito Santo until debouching into the ocean, on Regência Beach (ES).

With the sediment, heavy metals were mixed along with the river water, causing the death of fish, birds and, at various points, of the Doce River itself and some of its tributaries. Fishermen, riparians, farmers, agrarian reform settlers, and the Krenak indigenous people, as well as the townspeople located alongside the affected rivers, were damaged by the disaster. Although the federal government stance that classified the catastrophe as "natural", and later claimed it was a "technological" disaster, generated controversy; and even though much of the media has characterized it as an "environmental" tragedy; the rupture of the Fundão dam has even more complex proportions.

According to Norma Valencio,

The use of "natural" as a qualificative for catastrophic disasters, such as those related to Samarco dam rupture, becomes a symbolic aggression to those who are severely disadvantaged in these situations because the causative factor would not be some legal subject answering in court. It should be noted that its possible substitution by the qualificative "technological" could also be limiting, since its dominant use does not associate it with social relations, limiting itself purely to things – to containment dams, to the chemical substances of tailings and the like - as if they were contained in the ill-developed and the adoption of new technicalities would solve the problem. (...) The same could be said of the "environmental" qualificative that, in practical terms, emphasizes only environmental issues that can be technically managed, leaving behind in a hide and seek game the social subjects and operational logic that forge and recrudesce such tragedies (Unofficial translation) (Valencio 2016, 42).

In this sense, the concept of disaster mobilized in this work aims to address the social impact on the livelihoods of those affected by it.

Renzo Taddei (2016), when defending the approach to disaster from an anthropological perspective, states that "disaster is never in 'nature', but in relation to it" (apud Oliver-Smith 1999). For this, he offers us the example of his research, carried out in the northeastern backlands. Taddei turns first to the caatinga, an ecosystem formed mainly by xerophytic vegetation, able to survive extreme drought situations. The caatinga probably exists for thousands of years, present in the so-called "drought polygon", and it is clear that this region has been facing water shortages for a long time. For much of this period, animals and native populations faced the problem by migrating through the territory in search of water. Population in permanent nuclei would have been, according to him, responsible for exposing them to a "spatial rigidity irreconcilable with the regional flows and climatic variations" (Taddei 2016, 2). In this sense, the "disastrous element" in the case of the Northeastern drought is not exactly the scarcity of water, but the land domination form and use implanted here by the Europeans. Thus, Taddei argues that the "disaster is practically embedded in the Brazilian economic and political organization forms" (apud Taddei; Gamboggi, 2010).

In the case of dams, according to the National Department of Mineral Production (Freitas et al. 2016, 26), Brazil has 662 dams and exhausts with buses distributed in 164 cities across the country. Thus, 80% of them are classified as having low-risk of disasters by risk category – the same classification given to the Fundão dam. Another 5% are considered high-risk. Thus, "we can consider that we have a large set of serious threats and risks of disasters in mining dams scattered throughout the country."

Regarding the economic aspect, according to data provided by the research group on Politics, Economy, Mining, Environment, and Society (PoEMAs 2015), Brazil was one of the five countries responsible for two-thirds of the global mineral exports, which deepened the country's economic dependency on the mining-export sector. "The share of minerals in the country's exports increased from 5% to 14.5%, with iron ore accounting for 92.6% of this total" (Wanderley et al. 2016, 30). This comes from a development model that, stimulated by the federal government, is highly predatory and treats nature as a source of exploitation. In this context, the Fundão dam, which came into operation in 2008 (when the ore price reached its peak), had its environmental licensing "carried out by institutions that undergo an intense process of precariousness and political interference, binding approval to a series of constraints, not always effectively fulfilled" (Ibid., 34).

In the affected region around Mariana, it has been estimated that in many localities up to 95% of the economic activity is based on iron ore extraction, which has caused a collapse in the regional economy since Samarco interrupt its activities. This issue clearly exposes the economic dependence on mining activities, as well as how the paradox of this dependence harms the area. Regarding this, Valencio (2016) warns that although altruism is initially the predominant social behavior, after a brief period the practice of the so-called slow violence against those affected in the context of disaster is observed. In Mariana, we can observe several practices towards blaming the victims, especially by the residents, many of them workers directly or indirectly linked to Samarco, who accuse the victims of being responsible for the high unemployment rate in the region<sup>3</sup>.

In this sense, the dimensions of the tragedy are much more complex than the vague definitions the disaster has pointed out. Resuming disaster from an anthropological perspective becomes, therefore, a way of deepening the analysis:

> In the mining context, social scientists pointed out that the community of Bento Rodrigues had been afraid of a dam breakage for years and, after the disaster had materialized, the company's harassment would have become constant, constraining the community's demands. Yet in the capixaba context, a similar study pointed to the combination of concrete and symbolic aspects; serious problems in water supply, irrigation of crops, fishing, and tourism and leisure, as well as ecological damage, were associated with police violence against protesters and the community pain in witnessing the Doce River in agony, in opposition to their emotional memory of the place. Such breakthroughs and discontinuities in social life did not occur only in this disaster, but in innumerable others, in which social scientists would need to be supported to deal with the density of analysis (Unofficial translation) (Ibid., 43-44).

# **MUD PICTURES**

The way the tragedy of Mariana was represented by both the press and most of the photographers venturing into the mud requires analysis. In the case of the photographs made in Bento Rodrigues, the absence of those affected in the images is symptomatic. Their presence is marked only by a trace of absence: an abandoned cap on the mud, a fork, a book, a sofa.

<sup>3</sup> It is estimated that approximately 13,000 people were unemployed after the interruption of Samarco's activities. See more in "Residents of Mariana Blame Victims of Disaster for Increased Unemployment" (Basso 2016).

Journalistic images aim for an immediate impact. The image most widespread by the media shows a car on the wall of a house whose roof was swept by mud. This image resumes the debate through the tragedy dimension. About 60 million cubic meters of mud dragging walls, roofs, and furniture. The mud was able to throw a car on the wall of a house, such was the blast. These dramatic and appealing images filled the news extensively until they were saturated and replaced in the following week, when terrorist attacks occurred in Paris, making the Fundão dam disaster gradually become old news.

However, the image of the car on the wall, beyond exhaustion, has always caught my attention for another factor. The angle of this image, taken from a helicopter, would be one of the most used to approach this tragedy. In the photographs Pedro Mascaro made with his father, Cristiano Mascaro, seven months later for Piauí magazine (Mascaro; Mascaro 2016), this was also the point of view chosen to speak about the tragedy: photographs from the top of the disaster epicenter, taken with the help of a drone.

In cases like these, in which dimensions reach a large geographical extent, satellite images are recurring to cover the disaster proportions. However, how effective is it, to show the size of a disaster? Here, we enter a positioning problem – not only the look, but also the theoretical field is driven to define the disaster concept. Fundão dam rupture is still today described by most of national and international press as the greatest environmental disaster in the history of Brazil. As we saw earlier, however, its roots are political, economic, and social. Concerning this, however, the sin of satellite imagery revolves around their silence on the matter.

# Eduardo Sterzi (2016) writes for Zum magazine that

Only satellite images have managed to completely cover the catastrophe – however, if we gain, thus, a vision of the whole, we lose contact with reality. Photography becomes map, abstraction. The whole seized and offered by a satellite image is a whole that has lost its concreteness, a kind of pure undisguised image of the world. The catastrophe seems to require a look capable of moving between the maximum plane (the totally modified territory, the affected populations, the rivers destroyed, the reflections in the ocean, etc.) and the minimum plan (not only the extinction of some species, but every animal killed, not only displaced communities, but every object left behind...). No matter how much one concentrates on the minimal plan – and photographing is necessarily cutting the real out – the photographer cannot, through minimum, allude to the maximum. (Unofficial translation)

Bruno Veiga, the photographer Sterzi talks about in this subject, seems to solve this problem with his essay *Deserto Vermelho*. Veiga's photographs, however, fail in another aspect: they are aesthetically impeccable. How is it possible to talk about a tragedy when facing such beautiful images? This question haunts us before every tragedy photograph. Is it possible for a photograph about a disaster of such proportions to be beautiful?

The four *Sonderkommando* photographs analyzed by Didi-Huberman (2012) are crucial. Precisely because of this, some might say that they are poorly framed. However, the technique precisely deviates in favor of the photographic act. Its urgency is part of History. In the photographs of the Samarco disaster, however, many photographers were in Bento Rodrigues looking for a tragedy that could please the eye. Perhaps the greatest example of this is Christian Cravo, who gave a statement to a newspaper in Minas Gerais (Midlej 2016) that "the greatest challenge [was] to find some beauty in an obscure situation like this. And this was only possible after he saw the episode with some 'bleakness', a time after the dam breakage."

Being able to see beauty in tragedy is undoubtedly a cultural issue. Davi Kopenawa and Bruce Albert (2015, 432) report the Yanomami shaman's journey to the city, and in front of the reddish sky, Kopenawa sees no beauty:

Where the white men live the sky is low, and they do not stop baking large quantities of ore and oil. That is why the fumes of their factories rise steadily to the sky. This makes it very dry, brittle and flammable, like gasoline. Heat-torn, it becomes fragile and falls apart like old clothes. All of this worries the xapiri very much. (Unofficial translation)

Kopenawa also says that the eyes of the white men are spoiled by the metal smoke and the blinding dust. For him, we cannot see right because we pull the ores from the earth, crush and heat them in factories. "It then exhales a fine dust, which spreads like an invisible breeze in their cities. It is a thing of dangerous witchcraft, which enters the eyes and spoils the sight" (Kopenawa; Albert 2015, 362). The smoke plucked from the ores is, at the same time, the one that blinds us and colors the city sky. Blind, we contemplate the fiery sky.

### **BURIED PHOTOS AND SURVIVING IMAGES**

Faced with questions posed previously, how could we, *despite everything*, think along with the images produced about the disaster of Mariana? If they did not say exactly what I wanted them to say, then I tried to manipulate and assemble them. To intervene in these images was a way to make them mine and, to mount them, to make them speak of the tragedy.

At first, I have gathered all these photos, images from the press, satellite images, photographs of Mascaros, Veiga, and Cravo, printed and then buried them in my garden. I wanted them to have at least some contact with the mud. After a week resisting rain showers and insect hunger, I dug them up, and finally assembled them.

Regarding the montage, Walter Benjamin (Didi-Huberman 2016) defends the need to brush it against the grain, that is, to try to leave the stream of images and brush backwards to discover their gaps and their discontinuities. It is through montage that images gain positionality and expose conflicts and paradoxes of History.

Montage would be to shapes what politics is to acts: one must put together the two meanings of montage, that is, the excess of energies and the strategy of places, the madness of transgression and the wisdom of positionality. Walter Benjamin, it seems to me, never ceased to think alongside these two aspects of montage as being a political action. (Unofficial translation) (Ibid., 2).

In that sense, how does one 'brush against the grain' and assemble the images of a disaster? The notion of image thrown at them points out that they are not intrinsically "good" or "bad" but, on the other hand, they also depend on what do we do and how do we look at them. Images do not contain a single meaning on themselves. Now mute, they are reserved towards the polysemy of not saying.

Didi-Huberman (2015b), in his essay *Pensar Debruçado*, differentiates, on the one hand, those who want to see everything from above and free themselves from the sensible world and, on the other, those who lean to think and bet on a sensitive experience. He calls these two ways of looking overpowering and comprehensive views, respectively. In the first, the vision establishes a posture of retreat and the object, looked down, is separated from the eye that sees it, being unattainable. The look seeks, through it, a pure, immaculate knowledge. In the second one, on the contrary, the object rises towards the eye, which comes and goes, becoming sensitive to what it sees, offering the opportunity to touch the object of knowledge and to be carried away by its seductions, illusions, and meanders. Its knowing is a not-knowing.

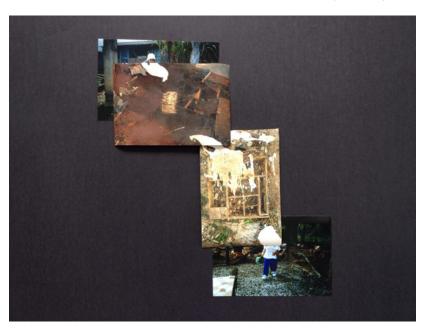
Looking from above, however, always brings the risk of falling. Built on these definitions, is it necessary to choose a part amid two positions: to be taken apart or moved away? Didi-Huberman points out that they are just two ways of looking at the images, serving the interests of those who look. The satellite photographs seek precisely this pure knowledge

of the secluded gaze. My intention was, differently, to dwell on the images and let myself be struck by what I was looking at.

Thus, I put all the dug-up photos on my mounting table and leaned over them. But something was still missing. Then I went for another type of image, which I will call here the surviving photographs. I found in an article from *Brasil de Fato* entitled "O adeus a Bento Rodrigues" (Freire 2016), photographs of Manuel Marcos Muniz, a.k.a Marquinhos. These are some of the photographs that were not in Bento Rodrigues when the mud devastated everything. Marquinhos is today one of the few residents to own photographs of the municipality from before the mud. Many others remain buried.

Although I did not know what to do with Marquinhos's photos, I also placed them on my desk. Mounting them with the other images seemed a way of restoring people and memories to the images. The absence of the victims in them was replaced by their evidence (Figure 1).

figure 1

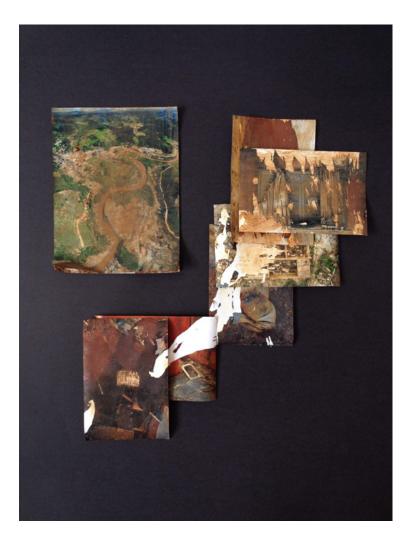


In this first montage, the whites of the dug-up photos caused by scraping and humidity guide the image appearance and disappearance. The white is at the same time what stopped appearing by the rupture of the dam, but it is also the gap that we try to fill. White also intends memory. Sometimes, when we forget, we say "it went blank". Destruction is necessarily linked to oblivion, but their relationship is not direct or simple. In Bento Rodrigues, the district most destroyed by the rupture of the dam, there are several initiatives of local people to collect memories of the place: drawings of how Bento was, stories, memories... An effort not to forget, despite the destruction.

Looking at this montage from another perspective, we can see that the white path in the chosen images still create kind of a monster. The head, at one end, is followed by two aerial images of the destroyed district and, at the other end, the body of a child. The two photographs of the destruction are its neck, what supports the head. Destruction here is a bodily mark of those afflicted, it is part of their identity and it has been incorporated.

Finally, images of destruction overlap those of how Bento was before the tragedy, the surviving images. How did the breach of the dam alter the life of this girl? (Figure 2).

figure 2



This second montage explores in another way the whites caused by scraping the photos. Here, they serve to draw another course to the river. A course permeated by many other losses. Photographs overlap, cut, merge, and mount, so they become the river itself. A river of whites, losses and abandonments, running nowhere (Figure 3).

figure 3



In this third montage, we see only a surviving photograph placed on an aerial image made by a drone. At some points they seem to merge. The wall to the left merges with the sky, the piece of wood in the foreground ends on a cliff. The man and his daughter balance over the image below. They stand despite all the tragedy. This montage is a metaphor for the photos that have survived. Surviving images such as those, which resisted a shipwreck, which are left, those which will help us think through the imagery of this tragedy (Figure 4).

figure 4



In this montage, we have in the foreground a very scraped satellite photo and, below it, several layers of other images – including the surviving photographs. We see, for example, the roof of Marquinhos' house. To comprehend each of these images, one would have to dive into the montage. The movement here is vertical. There are layers of different meanings. To see them we must dig, as the archaeologists in Mariana do, searching for what remains. Alone, the satellite image offers us none of that. One must lean to see (Figure 5).

figure 5



Finally, in this last montage, we have several photos scattered over the black background. In the center, the saint with the scraped face. Looking more carefully, we noticed the girl on the left side and, on the right, her father. These family portraits, however, are suffocated by the images of destruction. Their lives are now framed by the tragedy.

### **FINAL NOTES**

In this process of work, I have sought through the deformation and assemblage of the images of the Fundão dam rupture tragedy to propose a new way of looking at the images produced. Burying and warping the photographs was a way of taking the evidence out of the recognizable image and managing to play with metaphors from their remains. When one stops seeing the recognizable in the image, only the deformation can be seen.

Didi-Huberman (2015a), when approaching restitution, states that it is only possible to speak of remains using the remains themselves. He mentions the act of "taking a picture" but he wonders: would not be necessary to give it back at some point? Thus, restitution is, for the author,

the result of a political reflection and a knowledge positioning. Restitution "says, at the same time, about the transformation of an object and its substitution by another" (Ibid., 208).

In this sense, arising out of the remains, I have tried to make more complex the notion of disaster triggered by journalists and photographers, as well as restore the tragedy images of those affected, mobilizing a perspective that encompasses the social scope of this disaster. By erasing the disaster dimensions intended by journalistic photographs and the Mascaros, distorting the beauty of the photographs of Veiga and Cravo, and adding to them the surviving photographs of Marquinhos, I have tried to reflect on the Fundão dam tragedy representation and to propose a new way of looking at what was meant to cover the intangible of a disaster that devastated lives, memories, homes, projects, lifestyles, and much more.

### BIBLIOGRAPHIC REFERENCES

Brum, Eliane. 2015. A lama. El País, 30 nov. 2015. Disponível em: <a href="https://goo.gl/T9xNHf">https://goo.gl/T9xNHf</a>.

Acesso em: 6 dez. 2017.

Didi-Huberman, Georges. 2012. Imagens apesar de tudo. Lisboa: KKYM.

Didi-Huberman, Georges. 2015a. Pensar debruçado. Lisboa: KKYM.

Didi-Huberman, Georges. 2015b. Devolver uma imagem. In Pensar a imagem, org. Emmanuel Alloa, 7-19. Belo Horizonte: Autêntica.

Didi-Huberman, Georges. 2016. Remontar, remontagem (do tempo). Caderno de Leituras, no. 47: [1-7].

Freire, Simone. 2016. O adeus a Bento Rodrigues. Brasil de Fato, 28 out. 2016. Disponível em: <a href="mailto:kreia"><a href="mailto:kreia">kreire</a>, Acesso em: 6 dez. 2017.

Freitas, Carlos Machado, Mariano Andrade da Silva e Fernanda Carvalho de Menezes. 2016. O desastre na barragem de mineração da Samarco: fratura exposta dos limites do Brasil na redução de risco de desastres. Ciência e Cultura, vol. 68, no. 3: 25–30.

Kopenawa, Davi e Bruce Albert. 2015. A queda do céu: palavras de um xamã yanomami. São Paulo: Companhia das Letras.

Mascaro, Cristiano e Pedro Mascaro. 2016. A terra devastada: as marcas da tragédia sete meses depois. Revista Piauí, 1º ago. 2016. Disponível em: <a href="https://goo.gl/hJKrmv">hJKrmv</a>. Acesso em: 6 dez. 2017.

- Midlej, Roberto. 2016. Livro de fotografias de Christian Cravo revela marcas da tragédia de Mariana, em Minas. Correio: o que a Bahia quer saber, 20 jul. 2016. Disponível em: <a href="https://goo.gl/Bm7vcf">https://goo.gl/Bm7vcf</a>>. Acesso em: 6 dez. 2017.
- Milanez, Bruno, Luiz Wanderley, Maíra Mansur, Raquel Pinto, Ricardo Gonçalves, Rodrigo Santos e Tádzio Coelho. 2016. Antes fosse mais leve a carga: avaliação dos aspectos econômicos, políticos e sociais do desastre da Samarco/Vale/BHP Billiton. Marabá: Iguana.
- Oliver-Smith, Anthony. 1999. "What is a disaster? Anthropological perspectives on a persistent question". In: Oliver-Smith, A; Hoffman, S. (orgs.), The angry Earth: disaster in anthropological perspective. New York: Routledge.
- Sterzi, Eduardo e Bruno Veiga. 2016. Fotografia e catástrofe: Mariana (MG). Revista Zum, 3 jun. 2016. Disponível em: <a href="https://goo.gl/1jynF8">https://goo.gl/1jynF8</a>. Acesso em: 6 dez. 2017.
- Taddei, Renzo. 2016. Os desastres em uma perspectiva antropológica. ComCiência: revista eletrônica de jornalismo científico, no. 176.
- Taddei, Renzo e Ana Laura Gamboggi (orgs). 2010. Depois que a chuva não veio respostas sociais às secas na Amazônia, no Nordeste e no Sul do Brasil. Fortaleza: Fundação Cearense de Meteorologia e Recursos Hídricos/Instituto Comitas para Estudos Antropológicos.
- Valencio, Norma. 2016. Elementos constitutivos de um desastre catastrófico: os problemas científicos por detrás dos contextos críticos. Ciência e Cultura, vol. 68, no. 3: 41-45.
- Wanderley, Luiz Jardim, Maíra Sertã Mansur, Bruno Milanez e Raquel Giffoni Pinto. 2016. Desastre da Samarco/Vale/BHP no Vale do Rio Doce: aspectos econômicos, políticos e socio ambientais. Ciência e Cultura, vol. 68, no. 3: 30-35.

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