

Hauke Ohls

Capitalocene

Artistic Reflections on Corporate Responsibility for Climate Change

Hauke Ohls
University Duisburg-Essen
hauke.ohls@uni-due.de

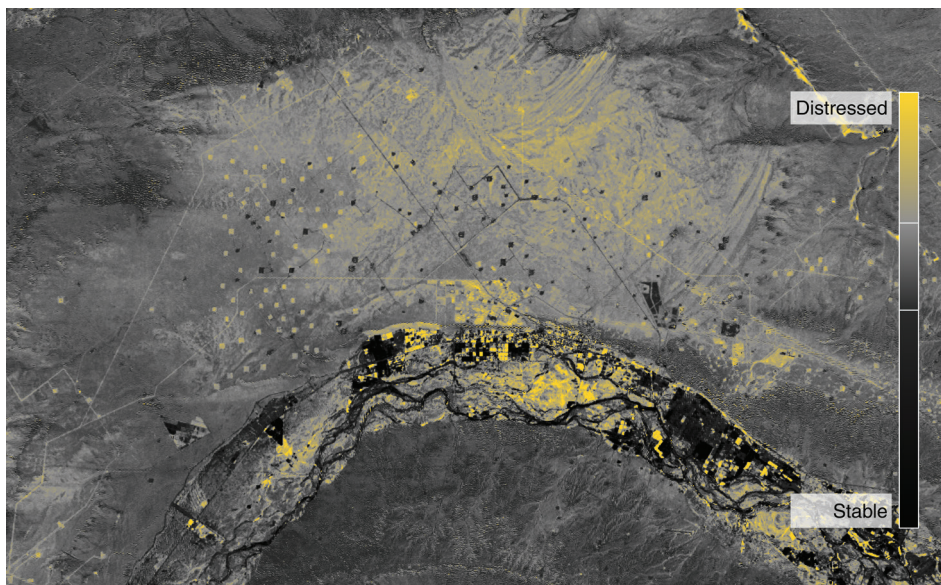
It is widely believed nowadays that we live in a new era called the Anthropocene, in which mankind is a climatic force. That this understanding contains a historical injustice becomes clear from the fact that the very abstract “whole of mankind” was never in a position to initiate processes of worldwide geological change or emit a significant amount of greenhouse gases, but only a small part of the Global North. The name Capitalocene is therefore more correct when the notion of responsibility is taken into account. Artists have addressed this imbalance of responsibility in various ways, as they tried to make the processes behind the structures of the global activity of multinational corporates visible. For this purpose, this essay investigates a work by Forensic Architecture that examines the extraction of shale oil and gas in Vaca Muerta, Argentina, looking at the environmental damage and impact on the indigenous population. By means of the artwork, reflexive knowledge is conveyed, which includes the consideration of neoliberal strategies of new extractivism in South America.

Keywords: Anthropocene, Capitalocene, (new) extractivism, Forensic Architecture, artistic activism

Introduction

The artwork *Oil and Gas Pollution in Vaca Muerta* by the British research group Forensic Architecture was published on their website on 14 October 2019. During five minutes and two seconds, the video covers the economic interests and their associated environmental and social abuses in Vaca Muerta, Argentina. Forensic Architecture investigated the period from 2013 to 2019 (fig. 1). Vaca Muerta is a geological formation in the province of Neuquén, located in northern Patagonia, where massive deposits of shale oil and gas were found in 2011. Esti-

mates are that it is the second largest deposit of shale gas and the fourth largest of shale oil worldwide (Di Risio, 2017, 5). This discovery created an immense flood of investments first from initially domestic oil companies and later from international ones. This process had been supported and expanded as a growth model by the alternately left-wing and conservative governments during the previous decade (Gudynas, 2019, 19-38).



1 Forensic Architecture, *Oil and Gas Pollution in Vaca Muerta*, Normalised Difference Vegetation Index (NDVI) analysis, 2019

However, the activities of governments and provincial councils, as well as the freedom of action large corporations have, must be seen in a much broader context, ranging from imperialist methods to neoliberal reforms, foreign direct investment (FDI), debt crises, price developments on the commodity market, and the model of new extractivism, which is supposed to be linked to a decidedly post-neoliberal policy. These, sometimes very contradictory developments, will be contextualized in this text within the discourse of the Capitalocene, in order to be able to give a contextual background with which the work *Oil and Gas Pollution*

in Vaca Muerta can be understood more holistically. Research-based and critical art does not work within theoretical frames, but rather advances its own theorizing, so that these observations not only provide insights beyond disciplinary boundaries but also explore blind spots, causing a mode of knowledge of its own emergence (Henke, Mersch, van der Meulen, Strässle and Wiesel, 2020).

This video is just a glimpse into the various examples and incidents that Forensic Architecture investigates in a region that at first seems distant from the residents of the Global North but is, in fact, very closely linked to it as it directly affects the politics of free markets and their energy needs. The visualization of processes in the periphery and among marginalized population groups, as in this case of the indigenous Mapuche, is a core concern of Forensic Architecture.

Forensic Architecture's *Oil and Gas Pollution in Vaca Muerta*

Founded in 2011, Forensic Architecture is a research group based at Goldsmiths, University of London that aims to promote forensic science as an emerging academic field in the humanities. Therefore, the group uses the forensic methods in their research: inscriptions in architectures are used to critically examine official – state, military, and corporate – statements. The term “architecture” can here be understood broadly since it generally refers solely to something constructed by humans. The rainforests, a landscape, nature in general, or something transient like a cloud can also be “architectural”. What they have in common is that they possess a shape over a certain period of time that at some point begins to look different, which means that something must have occurred in the meantime that changed it. These events, mostly not explicitly visible but noticeable in their before-and-after comparison, are the forensically undeniable, architectural evidence. In the case of *Oil and Gas Pollution in Vaca Muerta*, they include the rapid expansion of the concession sites, the growth of the waste-storage facilities, the oil spill in La Caverna in 2018, as well as the rapid loss of vegetation.

Forensic Architecture draws on a variety of interdisciplinary methods. For *Oil and Gas Pollution in Vaca Muerta*, these include 3D modeling, geolocation, image complexes such as mobile phone videos by workers, activists, or environmental organizations, and remote sensing, as applied here for vegetation loss. Satellite

imagery is a mainstay of their work, as it provides access to often remote areas, enables topographical comparisons to be made most precisely, and makes “previously imperceptible aspects of the earth” visible (Forensic Architecture, 2014, 746). As a result, an ensemble appears as an audiovisual event, which can be classified with the help of a voiceover. Forensic Architecture describes this as an “evidence assemblage,” and it is intended to counteract sovereign strategies as “counter-forensic” (Weizman, 2018, 58). For the agency, the circulation of their research is crucial, and the art context in which they are widely exhibited and received is only one possibility; political, journalistic, and legal forums should also be involved. Therefore, they also frequently collaborate with other cooperatives or accept commissions from non-profit institutions, human rights or environmental organizations. In the case of *Oil and Gas Pollution in Vaca Muerta*, however, it was the British newspaper *The Guardian* and its *Polluters Series*, that published an article as well as a video. Forensic Architecture is thus located on the threshold of a conventional concept of art and at the same time prototypical for contemporary, critical research-based strategies that use very different methods to convey knowledge and to create an aesthetic experience.

New Extractivism and Neoliberal Capital

The events uncovered by Forensic Architecture in Vaca Muerta are all related to so-called “new extractivism”. It is an economic model based on the exploitation of natural resources, in which primary commodities are made available to the world market or, through “rentier capitalism”, values are created via concessions to international corporations (Christophers, 2020). In contrast to the concept of extractivism, which was developed by mining and oil companies in the 1970s, the new extractivism or *neo-extractivismo* stands for the massive extraction and export of raw materials (Gudynas, 2019, 19-20), linked to the exponential price increase of primary commodities in the early 2000s (prices for primary goods increased by 185 % between 2004 and 2014; Schmalz, 2019, 39). The United Nations Statistic Division defines an economic activity as extractivism if it involves natural resources that are extracted on a significant scale and at least half of which are exported as commodities without further industrial processing (Gudynas, 2019, 22).

The term “new extractivism” links this strategy to a development model in which revenues are used to fund social security. The term is used for the Latin American continent, where center-left governments have been pursuing a massive expansion of exports since the beginning of the 2000s and combine this with the promise of social redistribution.

However, such an economic model is not so much based on “progressive capitalism”, which is a primary argument in defense of this course, but rather on the reactivation of the economic approach of the turn from the 19th to the 20th century, with its focus on import-export capitalism (Schmalz, 2019, 41). The reasons for this reorientation can be found in market dynamics that were explicitly promoted by politics. Here, only a brief sketch is possible: with the slowdown of economic growth in the Western industrialized countries in the 1970s at the latest there was a conservatively propagated decision in the direction of the economic model of neoliberalism, a view in which state interventions in market-economy processes are generally to be prevented and social redistribution efforts should be restricted. In addition, far-reaching privatizations have been carried out at the level of the nation state and trade agreements have been enforced worldwide to reduce import and export duties (Harvey, 2005). If these developments, which became known as the Washington Consensus, are initially associated with Margaret Thatcher in the United Kingdom and Ronald Reagan in the United States, they follow a discourse that has been vociferous since the end of World War II, linking neoliberalism to human rights (Whyte, 2019). Although there is clear statistical evidence that neoliberal reforms have created a massive imbalance in income distribution, this economic model is still dominant today (Harvey, 2007). Institutions such as the International Monetary Fund and the World Trade Organization also enforced the opening of markets in South America, especially after the Foreign Direct Investments (FDI) caused an “external debt crisis” in the 1990s. This determines the course up until today as Latin American countries are still dependent on FDIs and provide their access to raw materials accordingly in order to attract transnational corporations (Veltmeyer and Petras, 2014a, 2-3).

The opening of Vaca Muerta to the petro-giants after 2013 and the associated expansion of concession sites are made comprehensible by Forensic Ar-

chitecture on a satellite-imaged map. The artwork also shows the protest against this opening by the indigenous Mapuche, who evidently inhabited the region before the first colonizers arrived. The Mapuche began to organize resistance in the 1990s, seeking court cases that would officially grant them their settlement areas (Giarracca and Teubal, 2014, 72). Forensic Architecture demonstrates that even these judicial decisions do not lead to a secure claim to their land, for example, with the conflict that occurred in Campo Maripe and Chevron's Loma Campana oil field, where the community house of activists disappeared due to arson.

Another politically charged aspect in the case of Vaca Muerta is that a highly controversial method is used to extract shale oil and gas: hydraulic fracturing, or fracking. It involves a mixture of vertical and horizontally drilling, and then pumping frac fluid under high pressure into the boreholes in order to fracture the rock strata and transport the trapped oil and gas to the surface (Zittel, 2016, 34). The frac fluid consists of water with as many as 200 different chemicals added (Zittel, 2016, 42). Fracking is a technically complex method, with significant additional costs compared to conventional oil production. Moreover, it is associated with immense environmental risks – not only during the process, but also while storing the toxic waste. In Vaca Muerta, 20 companies are working on a total of 36 concessions covering an area of 8,500 square kilometers; since the discovery of shale oil and gas, around 2,000 fracking wells have been drilled (Goñi, 2019).

In the new extractivism, the ecological and social consequences for certain population groups are accepted because the (supposed) economic successes justify this. The reference to social programs is used as legitimation, although according to expert observations this mostly remains lip service (Veltmeyer and Petras, 2014b, 39). The overriding problem, however, is that Argentina's path of "post-neoliberal developmentalism" does not produce surplus value by means of industrial processing, but on the contrary, results in a net drain of natural resources, which can be described as an "appropriation of extraordinary profits in the form of monopoly ground rent" (Veltmeyer and Petras, 2014c, 123-125). Argentina is a particularly striking example of the neoliberal debt trap of foreign direct investments and mining of raw materials: The country has the largest imbalance in South America: it has to export the equivalent of three tons for every imported

ton of goods and 70 % of the exports are not industrially processed thus producing only minimal wage income (Gudynas, 2019, 32; Giarracca and Teubal, 2014, 78-79). Dependence on foreign direct investments is causing a rapid increase in ecological devastation throughout the country, as the world's largest investments are in mining, petroleum extracting, and land-grabbing (Veltmeyer and Petras, 2014b, 33-35). The Argentine government's commitment to resource extraction and export as an economic model, and especially the promotion of fracking, has come at a high cost in terms of subsidies. For example, in 2018 the government guaranteed a fixed rate to international corporations involved in fracking, and had to pay 340 billion dollars in subsidies that year alone (Cunningham, 2020).

Anthropocene vs. Capitalocene

In general, a closely intertwined relationship among overall economies of the states in the Global North, multinational mega-corporations, and the government of the resource-providing states, stand against the social and environmental interests, not only by the local Mapuche, but in the Anthropocene era by a multitude of human and non-human actors. The term Anthropocene is understood as a new Earth epoch in which humans act as a geological force, and are equivalent to meteorite impacts, volcanic eruptions, or ice ages, as they are a global and measurable force on our planet. Climate change is a sign of the Anthropocene, but not synonymous with it (Thomas, Williams and Zalasiewicz, 2020). Various starting points for the Anthropocene have been discussed, recently the so-called great acceleration, in the middle of the twentieth century, seems to have become a consensus (McNeill and Engelke, 2014).

In this context, it is important to note that, in my view, the discourse on the Anthropocene and the Capitalocene do not mutually exclude one another; rather, it is a reciprocal supplementation. Depending on the context of consideration, aspects of one or the other are decisive, whereby the work *Oil and Gas Pollution in Vaca Muerta* only unfolds its full force through contextualization with the Capitalocene. According to T. J. Demos: "[The Capitalocene] has the advantage of naming the culprit, sourcing climate change not in species being, but within the complex and interrelated processes of the global-scale, world-historical, and politico-economic organization of modern capitalism stretched over centuries of

enclosures, colonialisms, industrializations, and globalizations" (Demos, 2017, 86). With these lines, Demos turns against the Anthropocene discourse, since for him and other theorists an equation of historically divergent possibilities of influence is transported by the word alone. "The Anthropos"; "the human", and thus a generalization to humanity as an abstract whole, never had an equal share in, for example, the emission of greenhouse gases. This would equate the Mapuche and their way of life with the actions of oil multinationals or state subsidies. From this point of view, the Capitalocene is clearly the more appropriate term.

Nonetheless, the major dangers of the Anthropocene and the Capitalocene are roughly comparable. Human activity has led to situations of immense ecological damage and thus threatening the (human) future, for instance, leading the planet into the sixth mass extinction in its history (Dasgupta, Raven and McIlvor, 2019). The difference is that with the Capitalocene one looks at the underlying structures with a decolonialized eye. The current state of the planet was initially brought about by a vanishingly small part of humanity, which has, moreover, built an asymmetrical web of opportunities to influence. Jason Moore therefore accuses the discourse concerning the Anthropocene of not productively explaining the current crisis, since the thought structures to which it is attached continue to belong to the paradigm that brought about this situation in the first place (Moore, 2016, 84). For Moore, the Capitalocene, and with it modern capitalism, emerges in the "long sixteenth century" (roughly from 1450 to 1640). He opposes the periodization of industrial capitalism as the decisive epochal change that starts in England in the late 18th century. Moore describes the structures as essential in which "Nature" is externalized and appropriated as cheap labor by capital, whereby human labor must also be counted in this newly emerged "Cheap Nature", when, for example, in the form of slave labor, the recognition as human is refused (Moore, 2015, 175). With "Cheap Nature", work or energy is produced and fed directly into the commodity cycle without the capitalist profiteers having to pay wages for it, this subtractive procedure to the disadvantage of nature and the majority of humanity characterizes the Capitalocene (Moore, 2016, 99). The fact that not only the corporate practices but also the states are decisive is made clear by Christian Parenti: "Managing, mediating, producing, and delivering nonhuman nature to ac-

cumulation is a core function of the modern, territorially defined, capitalist state" (Parenti, 2016, 182). For Moore, the problem humanity is currently experiencing is the end of the Capitalocene, and not that a new epoch, the Anthropocene, is beginning (Moore, 2016, 113). This is a proposition that has to be contradicted. The Capitalocene is an extremely useful theory because it shows that the current ecological situation emerges from the nexus of capital, military, and states with politically indoctrinated economic models, and transnational corporations. Further it shows the historical line of development which lies behind it, and how this continues to maintain imperialisms. Whether this status is currently actually coming to an end and we are already in transition to a "post-capitalism" and "post-growth" society, or it should only come to an end as the earth's resources are exhausted, is another question (Mason, 2016; Jackson, 2021). With the Capitalocene, the Anthropocene argument with its intrinsic non-hierarchy can be challenged. The unequal distribution of responsibility and the mechanisms that lead to it become much clearer. Nevertheless, the implications that come with the Anthropocene are immensely important: humanity is a measurable geological actor. Both lines of argumentation, when synthesized, would lead to an Anthropocene that is just with regard to climate, history, and society.

An artwork like *Oil and Gas Pollution in Vaca Muerta* cannot be said to give these discourses a visible form, but it is a reflection of the intertwined structures in an aesthetic format that produces knowledge and insights, even though none of these theories are obviously elaborated. If the link between artwork and theory is severed, however, dimensions are also lost. Forensic Architecture rather sensitizes the recipients to an experience that is "thought provoking". Direct structures become visible, which are neither individual stories nor remain in something abstract. Art shows here one of its traditional tasks: it reveals connections in our widely ramified present that would otherwise remain hidden, thereby giving rise to insight.

References

- Christophers B., *Rentier Capitalism: Who Owns the Economy, and Who Pays for It?*, New York, 2020.
- Cunningham N., Argentina's Failing Fracking Experiment, *nacla*, 29 April 2020; <https://nacla.org/news/2020/04/29/vaca-muerta-argentina-fracking> (accessed 16 March 2022).
- Dasgupta P., Raven P. and Mclvor A. (eds.), *Biological Extinction: New Perspectives*, Cambridge, 2019.
- Demos T.J., *Against the Anthropocene: Visual Culture and Environment Today*, Berlin, 2017.
- Forensic Architecture (ed.), *Forensis: The Architecture of Truth*, Berlin, 2014.
- Giarracca N. and Teubal M., Argentina: Extractivist Dynamics of Soy Production and Open-Pit Mining, in: *The New Extractivism. A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* (eds. H. Veltmeyer and J. Petras), London-New York, 2014, pp. 47-79.
- Goñi U., Indigenous Mapuche pay high price for Argentina's fracking dream, *The Guardian. The Polluters*, 14 October 2019; <https://www.theguardian.com/environment/2019/oct/14/indigenous-mapuche-argentina-fracking-communities> (accessed 16 March 2022).
- Gudynas E., Extraktivismen: Erscheinungsformen und Nebenwirkungen, in: *Extraktivismus: Lateinamerika nach dem Ende des Rohstoffbooms* (eds. M. Ramirez and S. Schmalz), Munich, 2019, pp. 19-38.
- Harvey D., *A Brief History of Neoliberalism*, New York, 2005.
- Harvey D., Neoliberalism as Creative Destructive, *ANNALS, AAPSS*, 610, 2007, pp. 22-44.
- Henke S., Mersch D., Van der Meulen N., Strässle T. and Wiesel J., *Manifesto of Artistic Research: A Defense Against Its Advocates*, Zürich, 2020.
- Jackson T., *Post Growth: Life after Capitalism*, Cambridge-Medford, 2021.
- Mason P., *Postkapitalismus: Grundrisse einer kommenden Ökonomie*, Berlin, 2016.

- McNeill J.R. and Engelke P., *The Great Acceleration: An Environmental History of the Anthropocene since 1945*, Cambridge-London, 2014.
- Moore J. W., The Rise of Cheap Nature, in: *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* (ed. J. Moore), Oakland, 2016, pp. 78-115.
- Moore J. W., *Capitalism in the Web of Life: Ecology and Accumulation of Capital*, London, 2015.
- Parenti C., Environment-Making in the Capitalocene: Political Ecology of the State, in: *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* (ed. J. Moore), Oakland, 2016, pp. 166-184.
- Di Risio D., *Vaca Muerta Megaproject: A Fracking Carbon Bomb in Patagonia*, 2017; <https://www.boell.de/sites/default/files/megaproject.pdf> (accessed 15 March 2022).
- Schmalz S., Vom Boom zur Krise: Gefangen im magischen Viereck des Neo-extraktivismus, in: *Extraktivismus: Lateinamerika nach dem Ende des Rohstoff-booms* (eds. M. Ramirez and S. Schmalz), Munich, 2019, pp. 39-56.
- Thomas J. A., Williams M. and Zalasiewicz J., *The Anthropocene: A Multidisciplinary Approach*, Cambridge, 2020.
- Veltmeyer H. and Petras J., Introduction, in: *The New Extractivism. A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* (eds. H. Veltmeyer and J. Petras), London-New York, 2014a, pp. 1-20.
- Veltmeyer H. and Petras J., A New Model or Extractive Imperialism?, in: *The New Extractivism. A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* (eds. H. Veltmeyer and J. Petras), London-New York 2014b, pp. 21-46.
- Veltmeyer H. and Petras J., Theses on Extractive Imperialism and the Post-Neoliberal State, in: *The New Extractivism. A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?* (eds. H. Veltmeyer and J. Petras), London-New York 2014c, pp. 222-249.
- Weizman E., *Forensic Architecture: Violence at the Threshold of Detectability*, New York, 2018.

- Whyte J., *The Morals of the Market: Human Rights and the Rise of Neoliberalism*, New York, 2019.
- Zittel W., *Fracking: Energiewunder oder Umweltsünde?*, Munich, 2016.

Illustration

Fig. 1 *Oil and Gas Pollution in Vaca Muerta*, Normalised Difference Vegetation Index (NDVI) analysis of the region surrounding the town of Añelo, in Vaca Muerta, 2013-2019, Forensic Architecture, publication date: 14.10.2019, video: 05:02 min, © FORENSIC ARCHITECTURE, 2022, <https://forensic-architecture.org/investigation/oil-and-gas-pollution-in-vaca-muerta>.