The creation of hearts of darkness, industrial sites where, like in Dante’s underworld, “the sun is silent” (Dante 29) was a condition of modernity. These places were cloaked in plumes of smoke, nearly smog, and stamped with both filth and with the perfection of technology. The hearts of darkness were located far from the centers of culture and politics, and encountering them was often an unwelcome surprise (cf. Tomczok 2022). In a somewhat diagnostic and somewhat prognostic passage, Karl Marx writes:

Capital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange—of the means of communication and transport—the annihilation of space by time—becomes an extraordinary necessity for it. (Marx 1993: 524)

Under capitalism, space was destined to be annihilated and was certainly subject to obliteration as economic data and commodity flows were taking center stage. Nature, too, which provided raw materials for human labor, was to recede into indefinite distance. In the Anthropocene era, this natural space is starting to penetrate the public sphere with increasing force. It was amidst debates about the memory of World War II that German historian Ernst Nolte wrote a controversial article about a past that won’t go away (Nolte 1987).
can borrow this phrase for investigating the presence of space, especially industrial space. Today, the memory of the Holocaust and World War II provides a paradigm for speaking about the difficult problems of the past and present, as well as about contaminated landscapes (cf. Pollack). This paradigm also lends itself to describing not only genocide, but also ecocide, living and dying in environments scarred by the many traumas that come with industrialization.

Much as talking about the past can be difficult, it can also be difficult to turn to one's closest space. Although I have always lived in an industrial area, for years I averted my scholarly gaze from that space: the closed and demolished industrial plants I have walked past or driven past on many occasions. Today, when many of these plants have vanished without a trace, this space is haunted by specters of uncertainty as there might be hidden contamination, or potential damage to the area which is either flooded or collapsing, lifeless or, on the contrary, full of life that thrives in the deserted grounds. These ghostly sites are becoming interesting to researchers as sites of the Anthropocene, places that have been transformed by humans and are teeming with visible and hidden vestiges of the industrial past.

The dream of the annihilation of space and the return of space in the Anthropocene carry a structure akin to the relationship of trauma and shock. The Promethean promises of modernity were headed in a completely different direction: the world was supposed to become safe for humans as they dissociated themselves from perilous nature. The aftermath of this shock is the idea of catastrophe portrayed as a desert: desolation, absence of life and light, smog and dust. This, however, does not have to be the end—neither of history nor of our fantasy. As Anna Lowenhaupt Tsing writes in her book on the world after the end of the world, there are several ways of telling the story of industrialization (Tsing 18). The first one focuses on progress and the conquest of empty spaces by pioneers who transform them into sites of industrial civilization. The second story is a story of destruction—of lost habitats and landscapes. But there is also a third story: that of life in ruins, life in a world blighted by destruction. A hermeneutics of such life is what we need most today: a hermeneutics that will help us relinquish the narrative of the conquest of nature and produce a new idea of it (Williams 84). To do this, writes Raymond Williams, we need to give up the separation of ecology and economics, to show how they are intertwined in multiple ways, to show the covert presence of economics in ecology and ecology in economics.

In the first part of the article, I consider this issue by discussing various theoretical works, most notably Jason W. Moore's concept of the Capitalocene and of historical nature. In the second part, I refer to a variety of cultural texts,
mainly films and photo albums, which show such possible entanglements in which the traumas of the land afflicted by industrialization speak. The second part centers on the space of the Upper Silesian Coal Basin, the region most affected by the changes in space (Tomaszek 62–67). Since the postwar era, diagnoses of the ecological catastrophe in the Coal Basin have called for plans for environmental remediation, which were usually dropped on account of the pressure for rapid industrialization. Only the economic transformation of the last thirty years has limited environmental destruction at the price of economic degradation of many cities, towns and settlements. In the conclusion, I pose a question about the hermeneutics of living in a space impacted by environmental trauma, about ways of dealing with the problems of living in spaces that are at least potentially contaminated.

1. Failed annihilations of space

For much of the past few years, knowledge helped us to turn away from the surrounding space. Categories such as language, discourse, spectacle, and simulation have ensured that we live in a mediated world rather than in a directly experienced world (cf., e.g. Debord). Even critical studies have concentrated on analyzing ideology, speculation and the world of abstract finance, as if oblivious that global capitalism also organizes real spaces and condemns many of them to contamination and degradation. Fredric Jameson stated that “when the modernization process is complete and nature is gone for good [we get] a more fully human world than the older one, but one in which ‘culture’ has become a veritable ‘second nature’” (Jameson 1991: IX). The second, man-made nature, was to be a human world elevated to the status of a natural certainty, while the human living environment was to remain forever artificial and open to change, which would be determined by political decisions. The world after nature (cf. Horn 51), the world of the end of nature, therefore institutes the reality of human domination, the subjugation of the mysterious powers of nature, which can be replaced by a fully human world, albeit one that brings new dangers. The postmodern belief in mediated access to reality, along with the absence of reality, could quite well illustrate the situation of European and North American industry, which in the last decades of the 20th century began to disappear from traditional industrial districts, leaving behind a void that has defined the livelihood of several generations, doomed to unemployment and social decline (cf. Edensor; Raphael).

The great return of space to debates in the humanities has come with the category of the Anthropocene and the treatment of humans as a geological force (cf. Bińczyk; Chakrabarty). Discussions revolving around the notion
of the Anthropocene and competing notions such as the Capitalocene, Plan-
tationocene and Chthulucene (Falb; Moore 2021) drove interest in the great
circulation of goods, and in global value chains. As places where economy and
production meet with nature to extract from it the raw materials necessary for
the manufacture of goods and the transformation of energy, mining sites were
some of the greatest industrial wounds.

In the mid-19th century, Marx said that capital, unseen and abstract, “ap-
ppears as an immense collection of commodities” (Marx 1992: 125; cf. Debord).
Stockpiles of commodities let us forget the places where they are produced
and the long chains of logistics often covering much of the globe. Images of
the Anthropocene, and especially images of industrial wounds, remind us of
this repressed space (Fair). Certainly the most spectacular images are those
of large open-pit mines, which require the removal of massive overburdened
earth strata and the creation of extensive wastelands, bereft of vegetation,
that resemble lunar landscapes. Another equally spectacular mining method
involves mountaintop removal to access the underlying coal deposits. This
method, which has been used since the 1970s, has led to the destruction of
some 500 mountains in the United States, and has wrecked the Appalachian
mountain landscape and poisoned wildlife (Crane). These examples touch on
the moment of human encounter with the land. Let us note that today the places
where people encounter exploited nature, rather than stockpiles of mediated
goods, are traumatic spaces: the encounter with them involves shock, surprise,
and embarrassment. These places reveal the environmental price to be paid
for the functioning of modern civilization founded on energy consumption.

To explore the concept of industrial wounds, we can go back to Marx’s idea
of the exchange of matter, namely the metabolic interaction between man and
nature occurring through labor, which “is an eternal natural necessity, which
mediates the metabolism between man and nature, and therefore human life
itself” (Marx 1992: 133). As he adds later, “[man] regulates, and controls the
material re-actions between himself and Nature” (Marx 1992: 283). It is the in-
dustrial spaces that witness the effects of this exchange, especially when it takes
the form of an industrial civilization that not only processes raw materials, but
also transports them to other places. The idea of metabolism, originally taken
from the writings of vulgar materialists and the works of Justus von Liebig
(cf. Saito 141), the founder of modern fertilizer chemistry, originally applied
to the transfer of food from the countryside to the cities, which disrupted the
metabolic space and created a metabolic rift. Yet the idea of a metabolic rift
can also be applied to the earth, its layers that are ravaged for the extraction of
raw materials, ores of various metals, sand, stone, coal, oil or natural gas. The
mining of these resources entails massive dislocations of materials which are moved to sites of further production and consumption and eventually become waste. The metabolism that Marx described in modernity becomes dislocated. There is a great stockpile of commodities in the foreground, but hidden in the background are waste dumps and mining voids, deformations of space from which layers of raw materials have been removed to be transferred elsewhere. Summarizing his thoughts on the metabolic rift, Moore notes:

That is, because of its metabolic rift, capitalism has been unable to sustain itself as a closed system, in which nutrients are recycled, but rather only as a flow system, requiring ever greater external inputs to survive. As a result, the system is compelled to seek out fresh land beyond its boundaries. Fresh land, however, is worthless without fresh labor. (Moore 2000: 146)

Capitalism does not produce a closed cycle, a circuit that could last indefinitely. In order to exist, it must transcend, and before that it must establish its own boundaries. These are political boundaries, of course, but also the boundaries of the land from which cheap raw materials can be extracted to be shipped to other locations and multiply in value. These raw materials often seem like gifts of nature sourced from land or underground that belong to no one. This is exactly how industrial metabolism begins: with cheap raw materials obtained through cheap labor. According to Marx:

All those things which labour merely separates from immediate connection with their environment, are objects of labour spontaneously provided by nature, such as fish caught and separated from their natural element, namely water, timber felled in the virgin forest, and ores extracted from their veins. (Marx 1992: 284)

Fish, wood, and ore—from the beginning of the Capitalocene they all had to travel long distances to reach the places where they were used. Provided by nature, raw materials seemed to require no special work but their acquisition required labor that was doubly destructive, both for nature and for the people who were obtaining these gifts of nature. With the overuse of raw materials, space began to undergo changes that were obscured by the circulation of goods, the spectacle of wealth displayed in commercial malls. The concept of the metabolic rift illustrates that the economy is not a closed system that can annihilate space, but that it requires a spatial, environmental complement.
I would like to mention here one of the many theories addressing the issue of the relationship between ecology and economics and looking for the possibility of creating a project of ecosocialism, Jason W. Moore’s book *Capitalism in the Web of Life*. Moore transforms Fernand Braudel’s idea of an economy-world into an ecology-world: the world of capitalism, according to Moore, never fully forsakes its relationship with the earth, with space, in order to fall into mere economic abstractions.

In the first volume of *Capital*, the most important critical step was the transition from the market of colorful commodities to the factory, where added value is created. However, another step seems just as important in the Anthropocene era. Anna Tsing points out that Marx’s preference for the factory meant that the relationship with nature was reduced to raw materials, with the entire process of obtaining those raw materials disappearing altogether. In Marx’s time, each of the large factories had to be equipped with its own steam engine, whose presence was signaled by a smokestack with black smoke billowing up from it. This close link between factory work and the steam engine was lost in the twentieth century, when the energy that powered the machines came from remote power plants. As more and more intermediaries were being introduced, the chain linking production to the extraction of raw materials and energy became less and less visible, as did the link to the space in which these raw materials were created, extracted and processed. The Anthropocene forced a shift toward spaces where global value chains begin. This shift is also historical, as it compels us to think about environmental degradation, a process that was taking place far from locations that are familiar from political or intellectual history. A historical view of the oikos of the Anthropocene, therefore, prompts us to focus on the spaces of industrialization in recent centuries that were most exploited while being expunged from discourse, language, and culture. For Moore, Potosi which “produced value but did not control it”¹ is such a space (Moore 2003: 17). To produce value but not to control it is a catch-all expression describing the status of many industrial sites, sites of ecological and social degradation where global value chains originated, but where only secondary barbarism remained instead of civilization.

¹ Moore writes: “But, unlike Amsterdam or Lisbon, Potosi was a center of neither economic nor political power. It produced value but did not control it.”
2. Portrayals of the traumatic space of industrialization and deindustrialization (the case of the Upper Silesian Coal Basin)

The ruined environment of the Upper Silesian Coal Basin has featured as a backdrop in many films. The second of the three stories of Krzyż Walecznych (Cross of Valor) (dir. Kazimierz Kutz, 1958) is set in Katowice and Szopienice, and the focal scene, an attempt to kill and eventually banish a dog that had previously served in a concentration camp, takes place on the heaps of the Szopienice zinc smelter. In a black-and-white landscape, we see a rocky land without vegetation, an industrial desert fenced off by a wall from the brick housing buildings of Helgoland, traversed by an overpass that brings coal to the smelter, and further in the background there appear industrial facilities: the Uthemann smelter, a gas tank in Stawiska and a mine in Mysłowice. The ravaged space is the setting for a moral conflict between humans, soldiers seeking revenge against the Germans, and a dog trained to attack prisoners. The inability to decide whether to kill or adopt the dog and the decision to leave it in the space of industrial waste allegorizes the site as a territory of unresolved conflicts, of traumas that are both historical and environmental.

The exact same space returns in Stanisław Jędryka’s full-color 1975 film Koniec wakacji (The End of Summer Vacation), based on the young adult novel by Janusz Domagalik. The director moved the plot from Czeladź, the writer’s hometown, to several Silesian towns: Chorzów Stary, the zinc slag heaps on the border of Bytom, Chorzów and Piekary Śląskie, and Szopienice. The storyline is set amidst numerous heaps and industrial plants, such as the aforementioned gasworks and smelter. These images capture the traumatic space of the ruined land and contaminated air, as well as the artificial bodies of water in which human and inhumane lives are lived (there is a motif of pigeons that someone breeds between the industrial buildings).

Postwar industrialization, which relied on the construction of large industrial plants scattered throughout the country, led to major social changes, but it also brought about environmental degradation (cf. Leńkowa). Back in the 1970s, the press reported on the ecological problems being caused by large industrial plants, which were poisoning the rivers and air, and depleting the forests, soil and monuments (cf. Zieliński). Those who were fully conscious of environmental issues were able to speak out during the first Solidarity era, and at the beginning of the transformation (cf. Delorme). Books from the early

---

2 An estate of multi-family houses (familoks) of the former Wilhelmina zinc smelter in Katowice.
1990s mentioned the ecological disaster in Cracow (Gumińska), and a Cracow ecologist wrote about the anti-ecological legacy of totalitarianism (Delorme).

It may be difficult today to remember the environmental ills of the early days of the transformation, with air pollution norms being repeatedly violated. The photo album Śląsk, jakiego nie chcemy oglądać (Silesia We Don't Want to See) is a perfect reminder of this. The Italian photographer Franco Zecchin collected photographs taken in Upper Silesia in the early 1990s, from 1990 to 1991. He paired photographs of industrial plants and mining damage with pictures of the social and health effects of industrialization, thus outlining an argument linking environmental degradation to social diseases and diseases of civilization, which affected and debilitated both children and adult. A similar portrayal emerges in a film by Swedish filmmaker of Polish descent, Jerzy Śladkowski, Trójkąt śmierci (The Triangle of Death), which shows coking plants, coke-chemical plants and smelting mills, as well as a landscape of mine dumps: the most noxious plants that still operated in the Upper Silesian agglomeration at the beginning of the transformation, primarily in the areas of Zabrze, Bytom, Chorzów and Ruda Śląska.

By recalling these images in film and photographs one can address the repressed trauma of living in an environment that had been degraded for many decades (on pre-war degradation, see Marchacz). Today, when most of these factories are no longer in operation, and there is no trace of many of them in the urban space (on deindustrialization see Karpinski), it is perhaps easier to talk about this past, as it is no longer so vexing. But the awareness of living in a post-industrial space also breeds doubt whether this area is safe today, whether the decades-long emissions of hazardous particulates have left traces in the ground, so whether a trusted space is in fact toxic. The ecological trauma of deindustrialization taints space with uncertainty. It is not just the threat of mining damage, sinkholes, flooding or landslides, but also the feeling that there may be harmful elements and their compounds in the soil.

Transformation brought yet another trauma to the industrial districts, one that was more social, and less architectural. Many cities in Upper Silesia lost their factories that often employed several thousand people each. The vast decline of the industrial zones, which until recently had been full of workers, is documented in the paintings of Robert Schneider (cf. Niedoba), a German painter whose highly realistic paintings depict extinguished smelter furnaces, abandoned factory halls and the land of Szopienice with the unmistakable stigma of industrialization. These spaces were bustling with workers for many years—which was captured in painting more than a century ago by Adolph Menzel—but now emptiness prevails as if these spaces were given a brief moment.
of respite after years of exploitation. Sometimes this brief respite dragged on for two to three decades, and sometimes it continues to this day. Still, it was the 1990s and the beginning of the twenty-first century that were marked by the greatest large-scale closures, leaving only massive ruins awaiting demolition and, in the meantime, being dismantled by ubiquitous scrap metal collectors. In a photo album on the deindustrialization of Upper Silesia, Wojciech Wilczyk takes note of their presence. In Wilczyk’s photographs, the ruins of coking plants and steel mills appear as something monstrous, hidden in the wet gray of autumn, early spring or dirty winter. After more than a decade, however, we know that even this trauma of deindustrialization has passed, and the ruins of the most harmful coke plant have been replaced by warehouses of a well-known supermarket chain. Interestingly, it was this very space that raised concerns among residents, who feared that food products may become contaminated in the space where the coking plant had been located for many years. The space refuses to disappear into the past and casts a shadow over the buildings that are trying to bring it back to economic use and become a site for circulating goods again.

The traumas of industrialization are always complex. They comprise the fear of underdevelopment and economic and civilizational decline that threatens areas without industry. The onset of industrialization is marked by the trauma of a great shift: the large numbers of workers gathered in a new space lead to a host of social problems. The industry has almost always proved to be a wound to the environment: a wound that is often immediately visible, and sometimes shows up only years later. Finally, the phasing out of big industry, or deindustrialization, causes another social trauma: unemployment for workers in large plants, who are denied the chance of finding work in their local area.

3. Conclusion
How to live in a space that suffers from industrial wounds? Some of these wounds are visible, but many of them are contaminations, disguised threats reminiscent of radioactivity (cf. Storm) rather than conspicuous destruction. Today we need a hermeneutics of the world of industrial degradation and post-industrial insecurity, a hermeneutics that institutes a sense of space where every element is an artifact, an outcome of human impact on the environment, something that is potentially contaminated and menacing (on Human impact on the environment, see Wójcik). To me, videos posted on YouTube that search for traces of former industry, signs of a world seemingly gone for good, seem to be an example of such grassroots hermeneutics. I’d like to mention one of many such videos, which documents an expedition to the Brzozowica open-pit
mine in Będzin that operated in the 1950s and 1960s. After the coal seams were mined, the open-pit was filled in and a forest appeared in its place. The author of the video meticulously traces the vestiges of the industrial facility and reminds us that the forest is actually an area transformed by humans.

Life in post-industrial spaces demands a story embedded in the space. Sometimes it is a derelict space, an ecological desert, at other times it is a space of industrial ruins overgrown with wild vegetation, and much less often—a space that has now found new functions. Each of these spaces carries some specter of the past, a specter that lingers dormant and may awaken. The task of the narrative is to reliably tell the tentacular stories of these places, in which both human and non-human perspectives will be given their due place, in which the language of animals, plants, fungi and rocks that happened to be in this place, in this oikos, from which the paths of ecology and economics diverged, will be called into play.

Donna Haraway has often stressed that it matters by means of which stories we tell stories (Haraway 35). A dualistic vision of a human being pitted against nature—a subject who has done immense damage and is also supposed to repair it—cannot be the sole model for stories about industrial spaces. As Moore notes, “nature can neither be saved nor destroyed, only transformed” (Moore 2015: 45). We need narratives that are capable of tracking change: that do not try to capture an object, but follow the changes. And this requires the ability to track different languages. Ursula Le Guin claims that geolinguistics will help read the unseen language of the earth, the “volcanic poetry of the rocks” (Le Guin 175). Geolinguistics can play a special role in reading industrial wounds, as can empathy, insight and language supported by historical and natural science. Haraway refers the idea of tentacular thinking to such stories. One example of such tentacular imagery is Mona Tusz’s murals that are often located in post-industrial sites. The tentacles entwine together the destroyed Earth, historical objects, people, animals and other creatures, collectively creating an image of the intertwining of various forces that communicate with each other. The post-industrial space in these paintings does not fade away, but neither is it depicted as a lifeless desert. It opens up the prospect of a post-natural hermeneutics of the meanings that successive objects bring with them.

3 The video can be found at https://www.youtube.com/watch?v=vowSRuBY2y8 (accessed 15 January 2023).
References


Abstract

Paweł Tomczok
Industrial Spaces That Won’t Go Away

The article takes up the issue of space in the economics and philosophy of capitalism. Based on excerpts from Marx’s writings, I reconstruct the idea of annihilation of space and the metabolic rift. Using James Moor’s contemporary interpretations of these concepts, the article discusses industrial spaces in the Capitalocene. The perspective of the oikos, combining economics and ecology, has allowed me a new perspective on the issues of industrialization and deindustrialization and a reading of different cultural texts that deal with the issue of human impact on the environment. The second part of the article describes examples of degradation of the landscape of the Upper Silesian Coal Basin, portrayed in selected films and photographs. The conclusion asks about the possibility of a hermeneutics of industrial space: the possibility of life after the disaster and the creation of meaning in a tentacular entanglement with beings other than humans.

Keywords: industrialization in cultural texts, deindustrialization in cultural texts, anthropocene, capitalocene

Bio

Paweł Tomczok, Professor of the University of Silesia, author of the book Literacki kapitalizm. Obrazy abstrakcji ekonomicznych w literaturze polskiej drugiej połowy XIX wieku (Literaty Capitalism: Images of Economic Abstractions on Polish Literature of the Second Half of the 19th Century) (Katowice 2018). He deals with economics of literature, narratology, and environmental humanities. He is preparing a monograph entitled Zrozumieć Schulza (Understanding Schulz) and a book on alternative histories.
E-mail: tomczok@wp.pl
ORCID: 0000-0003-3618-4844