

1 Introduction

Growing up in Naples, Italy, in the 1970s, I had a schoolmate in primary school who would always fall asleep in class because he had been up all night “making cardboard” (*facendo i cartoni*, in the Neapolitan dialect). However, “making” is not exactly the correct term. Salvatore, along with many other Neapolitan children at the time, was not working in a paper factory “making” cardboard; rather, they spent the night collecting them from piles of urban rubbish, riding through the city on the back of the characteristic Italian three-wheeled commercial vehicle known as the Apecar. This activity was so common in the city at the time that the Neapolitan folk singer Pino Daniele included the *cartonaio* – we could translate this as the waste picker – as an iconic figure in his poetic description of the city night. Indeed, those were workers in a different kind of factory, the metropolis, where production and consumption are less separated than one might assume; thereby, one could “make” things by recovering them from the open veins of the urban mine.

This autobiographical note contains some of the main issues that are inherent to the most recent scholarship on waste, including the very meaning of waste (what is waste and for whom), the metabolic relationship of work and waste, the urban dimension of waste, and the controversy over waste ownership. The fact that at a certain point Salvatore disappeared from my classroom, leaving school for good, while I became a professor, illustrates that waste is not considered here as a thing, but rather as a set of socio-ecological relationships aiming to (re) produce exclusion and inequalities.

Ironically, writing about waste is a mess in itself. The amount of scholarship accumulated over this topic and its diversity in terms of disciplines and approaches is almost unbelievable. From anthropology to history, from ecocriticism to sociology, passing through economics, law, political science, geography, archeology, design, philosophy and many more disciplines I am now forgetting (shame on me!), waste is an extremely hot topic. This Element is not conceived as a long literature review on waste, partially because it will be incomplete and almost immediately outdated, but even more because I have designed it with a different aim. This Element is meant to propose the Wasteocene, that is, a narrative linking waste, justice, and the making of our present world. The Wasteocene is, evidently, in dialogue with the explosion of academic and arts debates and events around the Anthropocene. The Wasteocene can be enlisted among the creative alternatives to the Anthropocene which have bloomed especially among environmental humanities scholars who were unsatisfied with the overly neutral flavor of the “Age of Humans” (Malm & Hornborg 2014). Capitalocene has gained terrain for its

direct reference to the economic and social system that many consider responsible for the current socio-ecological crisis (Moore 2016). The Wasteocene assumes that waste can be considered the planetary mark of our new epoch. However, this is not solely because of its ubiquitous presence – after all, even CO₂ emissions are basically atmospheric waste – rather, I argue that what makes the Wasteocene are the wasting relationships, those really planetary in their scope, which produce wasted people and places.¹

If waste is not a thing to be placed somewhere but a set of wasting relationships producing wasted human and nonhuman beings, then wasted places, and wasted stories, the proximity, or overlapping, of a given community and a contaminating facility is more than a matter of miles and ZIP codes. Waste as a relation (wasting) *produces* the targeted community rather than solely selecting it as the ideal place for an unwanted facility. In this sense, we might adapt what Dipesh Chakrabarty once wrote on the issue of waste:

For whether we are talking about radioactive waste from the industrialised countries or of the waste of a household or village in India, the “dirt” can only go to a place that is designated as the “outside.” (Chakrabarty 1992, 542)

The practice of “othering,” which is inherent to the colonial project, rests at the heart of any wasting relationship. The production of waste is connected to the production of the other, or the outside, and of the “us.” As Gay Hawkins has argued, wasting does not only define who the Others are, but also “who we are” (Hawkins 2006, 2). The Wasteocene is to coloniality what the Anthropocene is to the species discourse – now so cherished by Chakrabarty (2009). We might say that “othering,” that is, the colonial production of the other, and “saming,” that is, the rhetorical invention of the “us,” are two sides of the same coin.² The othering produced through wasting is more pervasive than the making of sacrifice zones. Othering means to change the “nature” of the other while simultaneously using it to preserve a privilege.

In this Element I will illustrate how – perhaps I should say where – the Wasteocene manifests itself. I will trace the histories of the Anthropocene discourse (2.1) and propose the Wasteocene as an alternative framing for the socio-ecological crisis (2.2). Then I will explore the science-fiction narratives of the Wasteocene and how those imaginaries shape our ideas of the waste apocalypse (2.3). I will uncover the wasting of toxic stories through obliteration and domestication of memories or the imposition of mainstream narratives

¹ Here, I am building upon Bauman (2007) and his concept of “wasted humans.”

² Although rich and ramified, the genealogy of the “othering” as the pillar of the imperial project producing both the colonial other and the reassuring “we” of the colonizers has generally led to the work of postcolonial theorist Gayatri Spivak.

which either blame the victims or naturalize injustice (3.1 and 3.2). The Wasteocene is both planetary and place-based; I will jump between these scales, illustrating through a series of brief vignettes the diverse manifestations of the wasting relationships in the United States, Brazil, and Ghana (3.3). In section 4, I will examine the Wasteocene through the microscope lens, employing Naples (Italy) as an in-depth case study. I will look at how some epiphanies in the history of the city – cholera epidemics, the “dark disease” in the 1970s, and the 1990s-2000s waste crisis – have opened breaches in the Wasteocene wall that divide those who are worthy from the “others.” Section 5 is dedicated to the forces that within the Wasteocene are fighting to sabotage the wasting relationships and experimenting with new socio-ecological relationships. I will argue that commoning practices – that is, the collective practices generating commons (De Angelis 2017; Bollier & Helfrich 2012) – are the most generative anti-wasting strategies because as much as wasting relationships produce profit from exploitation and othering, commoning relationships, instead, produce well-being through care and inclusion. A few examples from COVID-19 solidarity brigades, waste pickers’ associations in Brazil, and working-class communities from Catalonia, Bosnia-Herzegovina, and Italy will give flesh, blood, and dreams to this discourse.

Cambridge University Press Elements are, by design, short contributions which should deliver a clear message and, hopefully, spark discussion and foster further, perhaps deeper, research. Rereading my manuscript, I realize that many things are missing, and yet it could not have been otherwise. Although my interpretation assumes that wasting relationships affect both humans and nonhumans, in my writing I still maintain a quite anthropocentric focus. Nonetheless, I also make clear that as the Wasteocene logic reproduces wasted people and ecosystems, any alternative project cannot be anything less than a multispecies liberation alliance. My best hope is that this Element might inspire other scholars to create a better and more inclusive understanding of the Wasteocene, beyond the limitations of my approach.

2 From the Anthropocene to the Wasteocene

2.1 Return to Cuernavaca

Perhaps it is my social/professional bubble, but it seems to me that the Anthropocene is everywhere – at dinner with friends, on social media, at conferences, and on the shelves of any bookstore you walk into. There is no single day – at least in my life – without someone mentioning the Anthropocene. Rarely has a scientific concept become so popular. Google informs me that today (January 23, 2020) the word Anthropocene gives more than five million

results in 0.7 minutes. The increasing currency of this concept goes hand in hand with the spreading anxiety about climate change. Given its popularity, it might be redundant to spend more words to explain it; nonetheless, I do feel that we need to start our journey to the Wastocene from the Anthropocene, the ancestor of a myriad of “-cenes” born within and against it.

As every foundational narrative, also that of the Anthropocene can be quite difficult to track back. Perhaps, the easiest point of departure would be in Cuernavaca, a town not far away from Mexico City. However, this time it would not be a story of conquistadores but of scientists. It was in Cuernavaca that in 2000, during a conference, the Nobel laureate Paul Crutzen felt the urgency to announce that the Holocene had ended, and a new epoch had started. Will Steffen, an earth-system scientist who would soon become a crucial figure in the Anthropocene debate, has often told the story of how Crutzen paused for a moment before coming up with the term Anthropocene. Almost a revelation, one might say. That of Crutzen was, at that time, only an intuition, yet the message was instantly clear: humans should be seen as a geological force able to affect the entire planet. Nobody better than he could understand the planetary systemic consequences of human activities. Indeed, in 1995, Crutzen, together with Mario J. Molina and F. Sherwood Rowland, had won the Nobel Prize for Chemistry for their research on the depletion in the ozone layer caused by human-made emissions. The story of the discovery and remediation of the hole in the ozone layer was, without a doubt, the foundation for Crutzen’s (re) invention of the Anthropocene. “Reinvention” because the story of the Cuernavaca conference and Crutzen’s enlightening comment is, indeed, only one of the multiple origin stories of the Anthropocene. Crutzen acknowledged that the word Anthropocene had already been used in the 1980s by the Swedish ecologist Eugene F. Stoermer. This is why Crutzen and Stoermer coauthored the 2000 foundational article on the Anthropocene, published in the *Global Change Newsletter Bulletin*.

It was this article, precisely, that complicated the origin story of the Anthropocene. By inviting Stoermer, Crutzen not only acknowledged that someone else had used the term before his extemporaneous intervention in Cuernavaca, but also that the concept of the Anthropocene had a much longer history. In that article, Crutzen and Stoermer listed what would then become the canonical genealogy of the Anthropocene. The US diplomat and eclectic scholar George Perkins Marsh, with his 1864 book *Man and Nature*, is often recognized among the first to uncover the destructive and persistent character of human actions on the environment. Having read so many volumes published in Italian in the nineteenth century pointing to the systemic links connecting deforestation, floods, landslides, and climatic alterations, I have always

wondered whether Marsh's primacy were mostly the result of the Anglophone imperialism.³ Nonetheless, *Man and Nature* and its author are regularly listed among the precursors of the Anthropocene narrative. It could not be differently with such opening words:

The object of the present volume is to indicate the character and, approximately, the extent of the changes produced by human action in the physical conditions of the globe we inhabit. (Marsh 1965 [1864], 3)

Although deeply rooted within the nature of the Mediterranean world – Marsh was a US diplomat in the Ottoman Empire and Italy – *Man and Nature* has an extraordinary global ambition, as exemplified from these telling opening words. The same global perspective on humans' effects on the environment was present in the writing of the Italian geologist Antonio Stoppani. In his 1873 geology handbook, Stoppani had indicated the emergence of the Anthropozoic, a new geological era marked by the “telluric” power of humans' activities. In the first decades of the twentieth century, the French philosopher and Jesuit priest Pierre Teilhard de Chardin and the Russian scientist Vladimir Vernadsky developed the concept of the noosphere – marking the beginning of a new age dominated by scientific knowledge and technology. In his compendium of the Anthropocene's genealogies, environmental historian Gregg Mitman has also included the US geologist Thomas Chamberlin, proponent in 1883 of the Psychozoic era, which assumed that humans were leaving their traces in the stratigraphy of the earth (2019, 61–64). Yet it is Mitman again who reminds us that this long genealogy of the Anthropocene has also been criticized by scholars who wish to underline the rupture of the Anthropocene rather than its continuity with past concepts and interpretations. According to Clive Hamilton, an Australian scholar who has been extremely active in the climate change debate, the radical novelty of the Anthropocene relies on the premise that there is something called the Earth System, that is, the interconnected assemblage of physical, chemical, and biological processes of which life is an integral part. For Hamilton, the mistake is to think of the Anthropocene within the usual individual disciplines, which seem to interpret it as just another word for the human modification of ecosystems. Instead, looking at it through Earth System Sciences implies recognizing the Anthropocene as a rupture in planetary cycles (Hamilton 2017, 17).

While Hamilton's critique of some Anthropocene narratives aims to reinforce the novelty – therefore the power – of the concept per se, the emergence of this new concept has spurred quite a heated debate among social scientists,

³ For instance Afan de Rivera 1825; Gautieri 1815; Melograni 1810. On this Vecchio 1974.

humanities scholars, and artists. Perhaps, it is worth mentioning that the Anthropocene has acquired intellectual currency independently from the actual official deliberation of the International Commission on Stratigraphy. The main critique against the Anthropocene regards the alleged neutrality of the concept, its depoliticizing effect, its blindness toward social, historical, gender, and racial differences. The Anthropocene is the “age of humans”, that is, an age in which “we” have affected the bio-geo-chemical cycles of the earth. Cohorts of progressive scholars have almost immediately signaled their discomfort with this universalistic narrative. For them – I should probably say for us – the “we” of the Anthropocene risks depicting humans as an undifferentiated community. On April 15, 2019, climate activists around the world used the image of the Notre Dame on fire to convey their message: our common home is on fire and “we” all must work together to save it. This metaphor perfectly exemplifies the controversial use of the word “we”, or, at least, of the limitations of the Anthropocene universalism. Playing with that metaphor, one might argue that, when on fire, the house becomes “ours” and everybody is called on duty to extinguish the flames, but when there is no fire, those who own, or believe to own, the house, are much less inclined to welcome everybody into it. Nice homes with pools and drinkable water generally come with fences and security; not a *common home* in that case. Environmental humanities scholar Rob Nixon has nicely articulated this tension between universalism and injustice, writing that “[w]e may all be in the Anthropocene but we’re not all in it in the same way” (Nixon 2019, 8). Similarly, I have used the Titanic disaster as a storytelling tool to discuss the tensions between the collective “we” of the Anthropocene – given that, indeed, humans are all together on the same boat, the earth – and the extreme unequal effects of the shipwreck on different groups of people (Armiero 2019). When on April 14, 1912, an iceberg collided with the Titanic, whether you traveled first or third class determined whether you lived or died. Quite literally, the Titanic metaphor says this loud and clear: class matters in the Anthropocene. Probably all my readers already know Chakrabarty’s four theses and his argument for a species’ history (2009) quite well. For all the richness of that debate, although recognizing the immense chasm between humans and nonhuman beings in the unfolding of the ecological crisis, I maintain my critique of the universalistic “we” of the Anthropocene.

I do not aim to build my handy strawman argument by blaming all earth system scientists for being blind toward social, environmental, and historical inequalities. Ian Angus has already shown that many of them are indeed aware of the social inequalities embedded into the Anthropocene (Angus 2016, 224–232). Will Steffen, one of the most influential earth system scientists, has often referred to the need to subvert structural power inequalities in order to

create a sustainable future. He also agreed to work together with Indian sociologist Amita Baviskar and myself at the 2015 Anthropocene Campus in Berlin on a teaching module which was anything but a neutral and apolitical interpretation of the concept. Neither do I believe that all humanities and social science scholars who employ the word Anthropocene are ignorant of the power relations which organize our positionality in the new epoch. Nonetheless, I believe that the ways in which we speak of the Anthropocene do reflect our focus or perhaps priorities; and what I want to prioritize, or place at center stage, are the unjust socio-ecological relationships which make the universal “we” of the Anthropocene narrative an extremely abstract concept. To be blunt here: I do not think that it will be a label that will change unjust relationships, but whatever words we will use, we need to change the narrative they convey. If we agree that the human species as a whole is not responsible for the Anthropocene, we can also thereby reevaluate its origins and more importantly, I would argue, the possible exit strategies. Among those who support the species narrative, the Neolithic revolution (circa 12,000 years ago), with its invention/discovery of agriculture and animal domestication, is often considered the logical candidate for the starting point of the Anthropocene. This hypothesis, however, contradicts the idea of the Anthropocene as a major rupture in the earth’s history; therefore, the Industrial Revolution in the eighteenth century and the so-called Great Acceleration of the post WWII years are generally considered the most appropriate turning points for the beginning of the new epoch. Crutzen and Stoermer themselves indicated the Industrial Revolution, with the connected explosion of CO₂ emissions, as the obvious candidate for the origin of the Anthropocene. Others, instead, have pointed to the extraordinary growth of the post-WWII years, with the exponential increase of almost everything connected to human activities, from urbanization to fishing, including the numbers of McDonald’s restaurants around the world. This Great Acceleration (McNeill & Engelke 2016) has been immortalized in the iconic hockey stick graphics which show how from the 1950s onwards, almost all human related activities have skyrocketed. Furthermore, the Great Acceleration also provides an indelible marker in the geosphere: the radionuclide fallout of the atomic explosions occurring from 1945 onwards.

As I hope is clear to the reader, establishing the starting point of the Anthropocene is neither just a curiosity exercise nor a specialistic puzzle for geologists. As with everything in the Anthropocene – and with the environmental crisis – even this origin issue is highly controversial and inherently political. I have no hesitation in saying that this debate goes beyond the factual discoveries of the Geological Working Group. In this Element, as in general in the environmental humanities debates, the Anthropocene is analyzed as a global

narrative about the current ecological crisis, rather than as a geological conundrum to be solved by scientists. Precisely for this reason, I find the debate generated by Lewis and Maslin on their “Orbis spike” hypothesis extremely productive. In brief, Lewis and Maslin propose the European invasion of the Americas as the starting point for the Anthropocene. They argue that the colonization of the New World not only had the characteristics of a planetary change in the earth’s biota, but it also left a clear mark in the geosphere in the form of a significant decline in atmospheric CO₂ (circa 7–10 p.p.m.), as recorded in two Antarctic ice cores (Lewis & Maslin 2018). According to Lewis and Maslin, the causes of this remarkable decrease in atmospheric CO₂ lie in the combined mass-destruction of Indigenous people and the following reduction of agricultural practices and (re)expansion of forests.⁴ While the proponents of the “Orbis hypothesis” give great importance to the materiality of their “golden spike” embedded within the ice core of Antarctica, instead, I would like to stress another point in their narrative, which I believe is more relevant in my critical exploration of the Anthropocene. The origin (hi)stories of the Anthropocene say something about who and what we consider responsible for the ecological crisis. “The Orbis spike,” Lewis and Maslin write, “implies that colonialism, global trade and coal brought about the Anthropocene. Broadly, this highlights social concerns, particularly the unequal power relationships between different groups of people, economic growth, the impacts of globalized trade, and our current reliance on fossil fuels” (Lewis & Maslin 2018, 177). In this sense, I would say that the colonial origins of the Anthropocene are crystallized not only in two ice cores from Antarctica but in an equally visible manner within the racist arrangement of our societies and of the stories we tell about ourselves. As Laura Pulido (2019) has clearly stated, concealing racism in the (hi)story of the Anthropocene is a powerful way to divide colonialism from capitalism, as if they were independent from one another. Instead, following Cedric Robinson, Laura Pulido reminds us that racism is not an accident in capitalism but its very foundation. Introducing Cedric Robinson’s classic *Black Marxism*, Robin Kelley wrote that “Capitalism and racism . . . did not break from the old order but rather evolved from it to produce a modern world system of ‘racial capitalism’ dependent on slavery, violence, imperialism, and genocide” (Kelley 1983, xiii). The “Whitemanocene” would find its starting point at the intersection of colonialism, slavery, and capitalism. According to Janae Davis and her coauthors, the

⁴ Clive Hamilton has challenged the “Orbis hypothesis” arguing that Lewis and Maslin could prove neither the human origin of the decreasing in CO₂ nor the fact that it changed the Earth System. Furthermore, according to Hamilton, a change of ten parts per million should be considered within the limits of normal variability in the atmosphere (Hamilton 2017, 23).

concept of the “Plantationocene” has the potential to bridge in one narrative the violence of racial capitalism and the “liberatory potential of Black ecologies” (Davis et al. 2018, 4). Indeed, (racial) capitalism is a central concept in any critical appraisal of the Anthropocene; placing it in that history implies a critique of species universalism by default, as well as a less flattening narrative about its causes. It is for this reason that the most successful alternative to the Anthropocene label has become the Capitalocene, the Age of Capitalism.⁵ Jason Moore – the most vocal advocate of this concept – has defined the Capitalocene as the era of “capitalism as a world-ecology of power, capital, and nature” (Moore 2016, 6). Hence, capitalism does not stand here merely for an economic and social system, rather it “signifies capitalism as a way of organizing nature as a multispecies, situated, capitalist world-ecology” (Moore 2016, 6). Capitalocene embodies the crucial critiques against the Anthropocene narrative, while building an alternative storytelling that begs for the politicization of the current socio-ecological crisis. Speaking of the Capitalocene has liberated creativity among humanities and social sciences scholars, igniting a proliferation of possible alternatives to the label “Anthropocene,” including the Plantationocene (Haraway 2015; Tsing 2015), Econocene (Norgaard 2013), Technocene (Hornborg 2015), Anthrobscene (Parikka 2015; Ernstson & Swyngedouw 2019), and Manthropocene (Raworth 2014; Di Chiro 2017). In the end, these diverse labels all aim to counter what has been perceived as the blind spot of the Anthropocene narrative, that is, its invisibilization, or at least undervaluation, of social, historical, racial, and gender inequalities in the paths toward the contemporary ecological crisis.

2.2 The Case for the Wasteocene

The Wasteocene is only one of the (too) many alternative “-cenes” that especially radical scholars have been putting forward, stimulating a more critical debate about the Anthropocene and its (hi)stories. It can be said that at the very core of every Anthropocene story lies some kind of waste. Apparently, the Age of Humans is marked by a techno-stratigraphy of wasted matter, such as carbon sediments, radionuclides and microplastics, accumulating beneath the earth’s surface. Waste can be considered the essence of the Anthropocene, embodying humans’ ability to affect the environment to the point of transforming it into a gigantic dump. For this reason, Massimo De Angelis and I have proposed to

⁵ In his volume *Anthropocene or Capitalocene?*, Jason Moore offers a brief account of the genesis of the word Capitalocene, acknowledging Andreas Malm’s initial intuition but also suggesting a rhizomatic and independent use of the word by several scholars, including David Ruccio, Donna Haraway, and himself with Tony Weis (Moore 2016, 5).

call the new epoch the Wasteocene (Armiero & De Angelis 2017). As much as the materiality of waste accumulating everywhere in our environment can provide a plain explanation for our concept, Wasteocene is not about waste as an object. Rather, thinking of the Wasteocene means to frame waste as wasting, that is, as socio-ecological relations creating wasted people and wasted places. The Wasteocene, then, is not the age where waste is everywhere; it is not a fancy academic label for lamenting the dirtiness of our cities. Neither is it another word for the familiar environmentalist nostalgia for some paradise, lost in the past. Actually, the Wasteocene is about cleanliness and aseptic environments as much as it is about griminess and contamination. Because at its very essence, wasting implies sorting out what has value and what does not. Zsuzsa Gille has written of the inherent classification and displacement connected to any waste regime, that is, to the social organization determining what is waste and where it should go (2007, 21; 34). The dump is a function of the safe and green neighborhood. As the US writer Rebecca Solnit (2008) has brilliantly argued, it is the wall that makes the paradise, that is, the othering of someone or something that creates a safe “us.” Wasting is a social process through which class, race, and gender injustices become embedded into the socio-ecological metabolism producing both gardens and dumps, healthy and sick bodies, pure and contaminated places. I believe that the Wasteocene can be understood only within the wider concept of Capitalocene; it is one of the manifold manifestations of capitalist ecologies producing the contemporary crisis. However, through the Wasteocene, I intend to stress the contaminated nature of capitalism and its endurance within the texture of life. While the traces of the Anthropocene are looked upon into the geosphere, the Wasteocene requires an exploration of what we might call the organosphere, that is, the texture of life. Strata of toxicity have been laid within bodies of human and nonhuman beings, testifying for the oppression and exploitation that capitalism has imposed upon subalterns.⁶ The Wasteocene is inherently historical because it implies the persistence of waste; it is synchronized with what Rob Nixon (2011) has labeled “slow violence,” that is, the delayed effects of environmental harms on humans, nonhumans, and ecosystems. As the Capitalocene speaks of the origins, or better, the causes, of the socio-ecological crisis, the Wasteocene uncovers the effects of capitalism on life. The Anthropocene is not only blind, or at least reticent, toward the responsibilities of the crisis, it also leaves open the possibility to interpret the new era in radically diverse ways. Some have been speaking of a “good Anthropocene,” arguing that the age of humans can be an

⁶ Similarly, Massimo De Angelis has written about detritus as “the layers of waste inscribed in the body and in the environment” due to the capitalist organization of life (2007, 70–71).