

The Anthropocene is the age of waste

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Abstract

The Anthropocene is the age of waste because converging forces have made possible normalization of waste and habituation of wasting. Paradoxically, systematic separation of waste and its producers has simultaneously created an illusion of disappearance of waste – the Leonian illusion in *Leonia*, the short story by Italo Calvino in *Invisible Cities*. The social sciences and humanities have a potential to unfold the normalization of wasting practices, and offer possibilities for creating counter-movement for de-normalizing of waste. The counter-movement is vital for challenging the accumulation of waste within the current, destructive economical structures.

Introduction

“For the past three centuries, the effects of humans on the global environment have escalated. Because of these anthropogenic emissions of carbon dioxide, global climate may depart significantly from natural behaviour for many millennia to come. It seems appropriate to assign the term ‘Anthropocene’ to the present, in many ways human-dominated, geological epoch, supplementing the Holocene — the warm period of the past 10–12 millennia.” (Crutzen, 2002)

It was with these words that Paul Crutzen, who obtained the Nobel Prize in Chemistry in 1995 for his work on ozone, opened the paper that has launched the notion of Anthropocene - “The Geology of Mankind”, a geological era characterized by the irreversible mark of humans on Earth.

In his paper, Crutzen mentions several chemical compounds contributing to the emergence of the Anthropocene:

- carbon dioxide and methane
- sulphur dioxide emissions
- nitrogen fertilizer

- chlorofluorocarbons



Figure 1: Facsimile of Crutzen (2002)

True to his background as a chemist, Paul Crutzen explains the Anthropocene in chemical terms. For me, as a social scientist, though, what has prompted the transition from the Holocene to the Anthropocene is the institutionalized, intensive wasting.

Chemicals may be the *material* cause of the Anthropocene, but the practical *root* cause is the enduring and systematic wasting that has resulted in these chemicals polluting the Earth. Thus, I argue that “the anthropocene is the age of waste” (Corvellec, 2019).

The Anthropocene is the result of systematic use of fossil fuels for mobility, heat, electricity, and plastics, release of persistent pollutants via industrial processes and use of goods and services, release of excessive nutrients in water streams by intensive agriculture. Therefore, if we are to understand how we ended up changing the climate, we need to understand wasting regimes as a whole (Gille, 2010).

A waste approach on the Anthropocene (and sustainability)

The natural sciences explain how CO₂, methane and other gases add to a greenhouse effect. This natural scientific explanation is incomplete as it does not consider the economic practices enabling polluting with hardly no costs or responsibilities.

Some prefer to speak of the Capitalocene (Moore, 2016) to stress that not all humans and not all ways of living have had the same negative impact on the environment. This notion

emphasizes that global warming and biodiversity losses are outcomes of capitalism as a system rather than humankind.

However, I will not enter in the Anthropocene vs. Capitalocene debate right now, and turn instead to the Swedish comic Tage Danielson who once said that “Cars should have exhaust pipes on their fore end, not their back end, so that it will be the one who drives who also dies¹”. Tage Danielsson’s pun captures an essential character of contemporary mode of living: moving forward by leaving things behind. And what we leave behind is waste: CO2 in the air, nuclear waste in the deep geological repositories, deserted stuff in the landfills, and microplastics in the oceans. The notion of Wasteocene (Armiero, 2021) aptly expresses that the Anthro/Capitalocene rests on the socio-ecological relationships that make it possible to make something/someone disposable.



Figure 2: Exhaust pipe (photograph by the author)

On this account, waste is not only a relevant entry point to understand the Anthropocene. It is also a relevant entry point to understand sustainability. *Sustainable* in sustainable development, *durable* in *développement durable*, *hållbar* in *hållbarutveckling*, *nachaltig* in *Nachhaltigkeit*, *sostenible* in *desarrollo sostenible*: all these adjectives point to duration. And what is better at standing the test of time than waste? Waste is what remains, what lasts, sometimes for an indefinite period of time. As waste archeologists (Rathje and Murphy, 2001) have shown, landfills are *millefeuilles* of the consumption of the past, layers of discards legacies. Nuclear waste will last longer than civilization. And no one will ever be able to retrieve but an infinitesimal part of plastic litter from the sea, nearly all of it shall remain forever in the water and on the sea-bed.

¹ Bilarna borde ha avgasrören inte i aktern, utan i fören. Då blir det den som kör som dör.

https://livet.se/ord/k%C3%A4lla/Tage_Danielsson/3

Waste does not go away but awaits and prevails, Italo Calvino tells in his short story *Leonia*, from *Invisible cities* (Calvino, 1974). In the story, the city of Leonia refashions itself every day. Its inhabitants wake up every morning in a world where everything is fresh and new: they discard everything in the evening; at night the street cleaners move the discards outside the city. The citizens of Leonia are unaware that their city is surrounded by mountains of trash that threaten to swarm over it and bury them forever in trash. If something is to disappear, Calvino tells us, it is the city, not the waste.

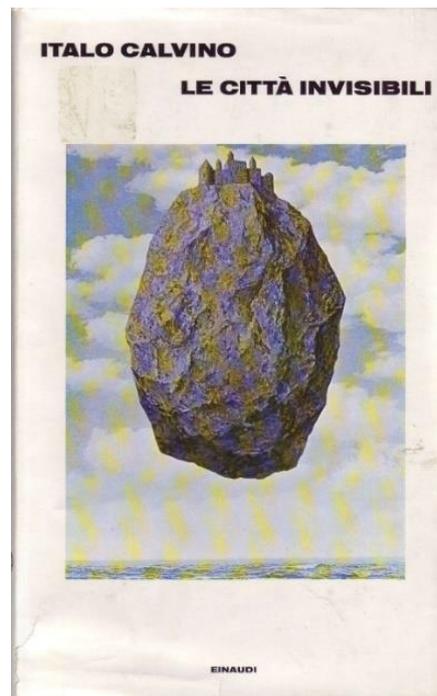


Figure 3: Facsimile of Calvino (1974), original Italian edition

The Brundtland report famously defined *sustainable development* as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, 1987). Being wedged on the notions of need and satisfaction, this definition does not recognize that the key challenge for future generation might not be meeting the future needs but tackling the waste legacies of the past: such as high CO2 level, “forever” chemicals, dysfunctional buildings, amounts of downcycled materials, aso. Through the waste approach, I would define sustainable development as follows: “A present that will allow for future generations to cope with the waste of their ancestors” and suggest bringing forth following questions: “How will future generations be able to live among the waste that will surround them?” “Is the future of humanity to be living on a dump?”

Normalizing waste

These questions being asked: how did we ended up here? My answer is because of a multilevel normalization of waste intensive practices.

Henry Sidgwick (1838–1900) and Arthur C. Pigou (1877–1959) are credited for having coined the concept of negative externalities. According to Wikipedia, negative externalities are “a cost or benefit that is imposed on a third party who did not agree to incur that cost or benefit”. In other words, negative externalities are about passing the bill to someone outside the contract – as if there was an “outside” where to dump environmental and social costs....

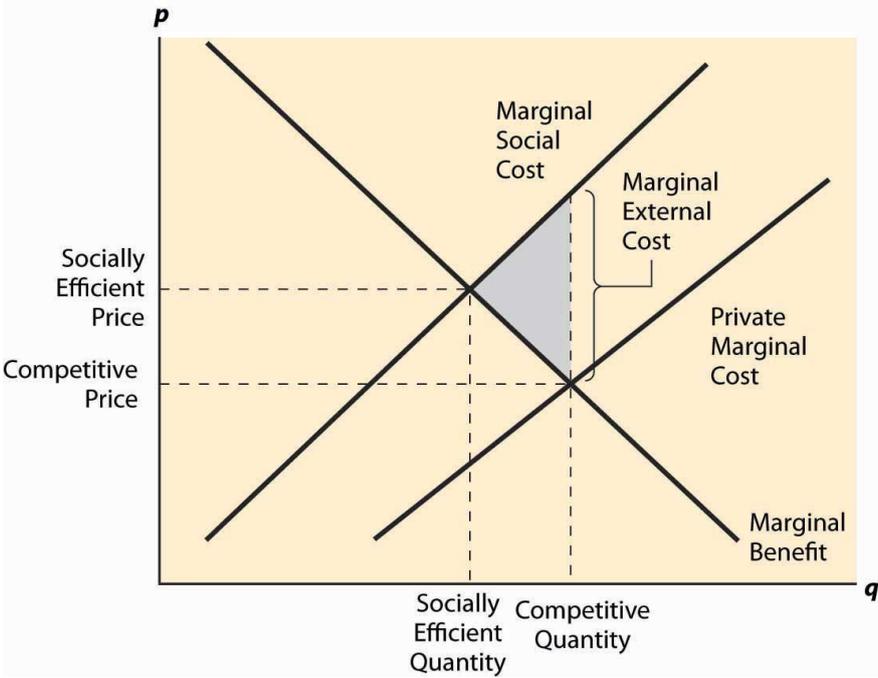


Figure 4: A negative externality (source: https://saylordotorg.github.io/text_introduction-to-economic-analysis/s08-01-external-effects.html#mcafee-ch07_s01_f01)

In practice, industries have been extremely effective at justifying their production of negative externalities such as pollution by invoking that they contribute to the creation of jobs, welfare, and economic growth (Jarrige and Le Roux, 2020). Thus, industries have been able to escape costs and responsibilities for their large-scale production of waste. Moreover, they have been able to maintain an image of efficacy, supported by economic and management scholarship, always eager to celebrate the triumph of markets and companies. What the story of this definitional elimination of waste from the equation of efficiency misses, though, is that waste does not go away, it just awaits and prevails. Calvino’s Leonia, again.

A recent study on waste prevention that we made (Svingstedt et al., 2020) revealed that industrial and commercial waste producers consider waste as regrettable yet normal. We asked companies that had gained notice in the professional magazines in the field of waste management for their prevention efforts what did they do in order to prevent waste. To our surprise, their answer was that they did not do much. They gave us three reasons: 1) waste prevention is not profitable, 2) there is a lack of technology, and 3) it is difficult to fit prevention in organizational routines. Just like advanced waste management has demonstrated its ability to normalize food waste (Corvellec, 2012) producers of industrial and commercial waste frame wasting as a rational choice: an incompressible cost that one must accept if one produces and sells things.



Figure 5: Normalizing food waste via the production of biogas (photograph by the author)

The normalization of waste does not stop at the production and distribution phase of the social life of things (Appadurai, 1986), though. Industry and commerce have also been clever at gaining acceptance for large scale post-consumer wasting. Replacements of functional stuff have been made a norm, almost a duty for the fashion-conscious ones, and ownership has been disconnected from responsibility.

In a short period of time, we have transitioned from the norm of one phone per family, each device with a lifespan of 25 years, to a one phone per family member, each device with a lifespan of 2 years at most: how has this been possible?



Figure 6: Functional telephone made obsolete by successive program updates (photograph by the author)

There exists a continuum from the celluloid collars that waste archeologists have found at the bottom of landfills, to the replacement of multiple uses bottles by single-use bottles in the 70's (cf., Hawkins et al., 2015), and to the frantic pace of replacement of clothes, electronic, furniture, sport equipment, tourism destinations, wellness practices, and other objects of fashion of the present. Under conventions of comfort, cleanliness and convenience (Shove, 2003), an accelerating pursuit of the new is driving hyper-consumption (Campbell, 2015) and with it accustoming consumers to more and more intensive wasting. When novelty is the pursuit, waste is not far.

The key thing is that wasting pays. And in the logic of capitalist economy, what creates a profit, deserves to grow. Thus, the Wasteocene (Armiero, 2021) is not an accidental failure; it is an intentional success. Many industries thrive on producing and selling things that are soon to become waste. Waste-intensity creates jobs, benefits stockholders, and fuels growth. Communities compete to attract activities of production and distribution regardless of how much waste they produce. The linear economy is a blatant demonstration of concurrence of high levels of profits and high level of waste production. Profits *and* Waste. There is so much money to be made by producing soon to be waste...

Textile producers use CAD computer programs to minimize textile spill. Is this waste minimization? Yes of course, but at the service of the fast-fashion industry, these programs have also been instrumental in cutting the price of apparels down to such a low level that a t-shirt ends up being considered a single or few-uses item (Samsioe, 2017). Be efficient, cut prices, sell more, and produce more waste. Fast-fashion is exemplary of the self-sustaining dynamics of the waste intensity of contemporary economies.

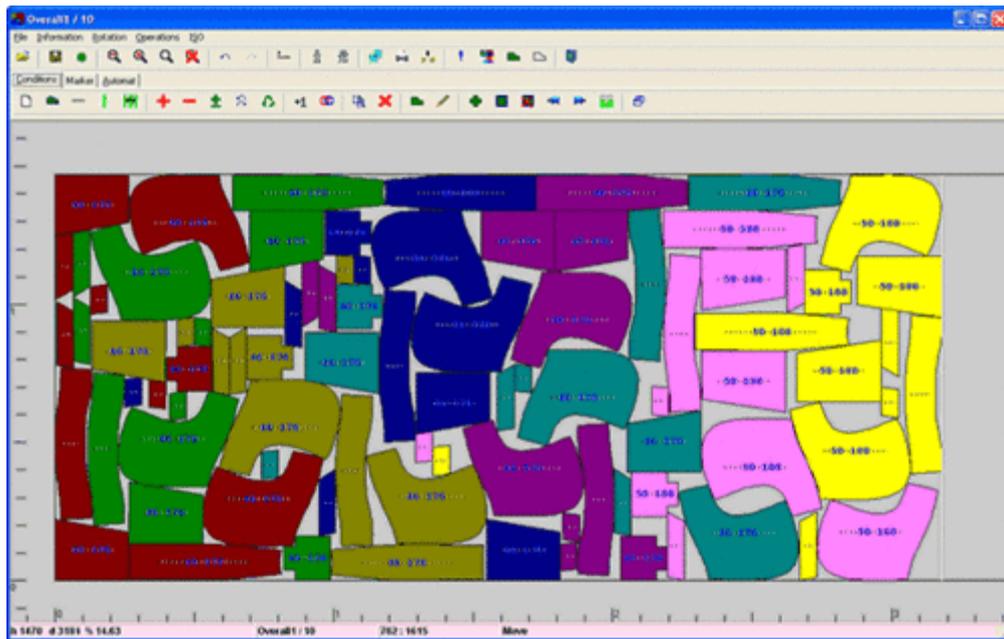


Figure 7: Garment Pattern Making Program (source: www.indiamart.com)

There is a lineage from the negative externalities in production and distribution to the normalization of short-lived products: intensive wasting is at the core of business models, and a key driving force of economic development. There are many and strong incentives to waste. My guess is that so many people make their living out of waste-intensive activities that – without the conventional stigma attached to waste – many could paraphrase the “Greed is Good” of Gordon Gekko from the first *Wall Street* film (Stone, 1987), and claim that “Waste is Good” (at least for them), including the actors of the waste management industry.

This is why, I think, just like environmental and social degradation have been engines of economic growth (Bartolini and Bonatti, 2002), waste production has been instrumental in making the Anthropocene.



Figure 8: Mariana Trench, 10,898m below the surface (source: Jamstec)

Thank you for your kind attention.

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