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The Anthropocene: Thought styles, controversies and their expansions.

A review

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Abstract

This review article uses the 2000 appearance of the Anthropocene as a conceptual anchor to further explore and embed thought styles on human-environment relations. In so doing, three main points are made: First, the Anthropocene is nothing new. Pre-ideas of a proto-Anthropocene, i.e. the importance of humans in human-environment relation have been previously explored. Second, while the first half of the 2000s was predominantly of stratigraphic concerns, the second half showed controversies between normative embeddings of good, bad and alternative thought styles on the Anthropocene. Third, with a scientific lag of approximate 15 years, multiplicities of alternative wordings have made their way as thought style expansions on the Anthropocene, re-framing and -branding existing thought styles (in e.g. ecomodernist, critical feminist, political ecologist fashion) in an attempt to achieve virality with other, more concrete wordings of the Anthropocene.

Zusammenfassung

Dieser Review-Artikel verwendet das Erscheinen des Anthropozäns im Jahr 2000 als konzeptionellen Anker, um Denkstile über die Beziehungen zwischen Mensch und Umwelt weiter zu erforschen und einzubetten. Dabei werden drei Hauptaussagen getroffen: Erstens, das Anthropozän ist nichts Neues. Frühere Ideen eines Proto-Anthropozäns, d. h. die Bedeutung des Menschen in der Mensch-Umwelt-Beziehung, wurden bereits erforscht. Zweitens, während in der ersten Hälfte der 2000er Jahre vor allem stratigrafische Überlegungen im Vordergrund standen, gab es in der zweiten Hälfte Kontroversen zwischen normativen Einbettungen von guten, schlechten und alternativen Denkstilen zum Anthropozän. Drittens haben sich mit einer wissenschaftlichen Verzögerung von etwa 15 Jahren eine Vielzahl alternativer Formulierungen als Denkstilerweiterungen zum Anthropozän durchgesetzt, die bestehende Denkstile (z. B. von Ökomodernist:innen, kritischen Feminist:innen, politischen Ökolog:innen) neu rahmen und branden, um mit konkreteren Anthropozän-Alternativformulierungen Viralität zu erlangen.

Keywords Anthropocene, thought style expansion, pluriverse, geography

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1. Introduction

The Anthropocene is characterized by its multiplicities of meanings, with a “differential lens through which disciplines across the academy are reviewing, debating, and reinventing their conceptions of humanity and nature” (Bauer and Ellis 2018: 210). The range goes from stand-alone stratigraphic boundaries and epochs (Gaffney and Steffen 2017), to the conceptual interpretation of human-environment relations at the intersection between science and art. I go along with Hoelle and Kawa (2020: 660) that the notion of the Anthropocene has to be seen through the conceptual lens of a pluriverse, making room for overlapping views and multiplicities of entry, mid and exit points of and for the geological epoch of the Anthropocene, where the prevalent dichotomy of (technical optimist and ecomodernist) good versus (critical, feminist) bad, utopian vs. dystopian Anthropocene conceptions become entangled with political and philosophical perspectives (Stallins 2021: 638). In a similar vein, Buck (2015: 369-370) sees the Anthropocene as a conglomerate of different yet related stories that reference each other, which go beyond the age-old “declensionist tale of falling Man destroying nature” versus “heroic Man saving nature” (Instone 2019: 364).

In this review article, I go beyond the search for the ‘right’ definition of the Anthropocene (which would prevent discovering “epistemes of human-environment interactions that are open for coexistence”; Veland and Lynch 2016: 1), and focus on the multiplicities and interdependencies of meaning and uses of the Anthropocene (and its provoked reactions). This train of thought shows great resemblance to Ludwik Fleck’s works on epistemology of thinking (e.g. 1981, 2011c). Fleck (1981), considering science as a fluid, interacting community of people rather than a static structure, uses the concepts of thought styles and thought collectives to highlight the reciprocity of actors’ stimulus on their thinking and acting, which are highly influenced by their socio-cultural surrounding. This, ultimately, has an impact on how scientific work is carried out and results are interpreted (Stuckey et al. 2015). Arguing from a praxis perspective, thought styles are formed within a thought collective (i.e. a group of people that has developed their own set of rules of how to act and interpret things). Those thought styles are not fixed, neither is the membership in thought collectives, they undergo constant change as the contexts (e.g. new members coming in, new input being taken up) develop and shift. Hence, it is so fruitful to see the discussions of the An-

thropocene as a *pluriverse of thought styles*, inspired, contradicted and contested by a number of thought collectives. Thus, the Anthropocene becomes a classic example of a boundary concept, where purification (i.e. strict stratigraphic methodology of defining an epoch) and impurification (contextual expansions and re-interpretations of the idea of the Anthropocene) come together (cf. Gieryn 1999), raising the question autonomy of thought styles, ideas and ideologies in the context of authority of science (Lundershausen 2018: 10-11).

Consequently, this paper goes beyond stratigraphic thinking and focuses on different conceptualizations of the Anthropocene. The anchor point for the discussion is Crutzen and Stoermer’s (2000) proclamation of the Anthropocene, from which light will be shed on proto-Anthropocene thinking as well as thought style expansions (i.e. the contestation and re-contextualisation) on the Anthropocene. To put it differently, the Anthropocene has to be seen as a “palimpsest, in which older versions become replaced by newer translations, yet nonetheless retain the watermark of the original idea” (Larsen and Harrington 2020: 733). In so doing, I want to give a short glimpse of the ‘older versions’ of the Proto-Anthropocene to lay the foundation for the normative meta-thought style discussions of the utopian, dystopian and intra-Anthropocene thought styles, which will be embedded in the time frame of the last two decades. The last section of this review article deals with the reactions and answers to the Anthropocene, which do not necessarily spring from geographic thought but have found their way in geography literature.

2. Proto-Anthropocene and pre-ideas

The Anthropocene has gained huge traction and critique from various sides, provoking endless calls for conceptual reframings and re-tellings (Buck 2015: 371). Yet, the study of the “entanglements between human and societal timescales and those geochronologies” (Sorlin and Isberg 2020: 719) is not a novelty proclaimed by Crutzen and Stoermer (2000), but has been at the centre of geographers’ thoughts long before (Cook et al. 2015: 241). Humboldt’s “Naturgemälde” (1807/2010), Marsh’s studies on human impact from 1864 (Marsh 1965), or Kropotkin’s mutual aid (Kropotkin 1902) act as pre-ideas (Fleck 2011b: 187) of the Anthropocene studied before 2000 (Larsen and Harrington 2020: 731). This proto-Anthropocene knowledge (Sorlin and Isberg 2020: 719) is also explicated in a number of stratigraphy-adjacent concepts (Table 1).

Table 1 Examples of proto-Anthropocene concepts. Source: Own elaboration

Concept	Year	Author	Description
Epoch of men	1788	<i>Georges Louis Leclerc Comte de Buffon</i>	seven “epochs of nature,” with the last one being the “epoch of men,” characterized by “the power of man assisted Nature” (<i>Comte de Buffon</i> 1797: 306)
Anthropozoic	1854	<i>Thomas Jenkyn</i>	‘the human epoch’, based on possible future fossil records
Anthropozoic	1865	<i>Reverend Haughton</i>	‘epoch in which we live’
Era antropozoica	1873	<i>Antonio Stoppani</i>	focus on the European man, “because Europe, more than other regions, feels man’s sovereignty” (<i>Stoppani in Simpson</i> 2020: 56-57)
Anthropocenic system (period) or Anthropocene	1922	<i>Aleksei Pavlov</i>	(<i>Pavlov in Zottola and de Majo</i> 2020: 456)
Noosphere	1927	<i>Vladimir Vernadsky</i>	“humans were a geological force by combining the new idea of the biosphere with human cognition” (<i>Barry and Maslin</i> 2016: 5)
Anthrocene	1992	<i>Andrew Revkin</i>	

At this point it has to be highlighted, that *Crutzen* and *Stoermer* (2000) have acknowledged the influence of Anthropocene pre-ideas by *March*, *Stoppani*, and *Vernadzky*, among others, showing the entanglement and thought style expansions of human-environment relations (*Crutzen* 2002). What the above-mentioned concepts, but also movements (e.g. ‘whole earth’ movement in the 1970s) or policies (e.g. in Agenda 21) previous to *Crutzen* and *Stoermer* (2000) have not achieved is the level of scalability and global impact (cf. *Martindale* 2015: 909).

The Anthropocene as a human-environment relational concept has triggered a widespread discussion, the creation of pro and counter arguments, all of which I consider fruitful for highlighting the importance of human-environment relations. Therein lies a conceptual incommensurability where Anthropocene conceptions consider humans at the centre of action and responsibility for the Earth, while the role of *homo sapiens* is simultaneously downplayed and moved to the side-line of action, arguing that “Earth powers are much older than us and cannot be easily subjected to control” (*Arias-Maldonado* 2020: 1031-1032). Even though the Anthropocene Working Group’s attempt to resolve controversies over the Anthropocene (and ultimately failed; cf. *Toivanen et al.* 2017), I consider the conceptions’ blurriness, controversiality, its triggering of counter arguments, as well as counter conceptions as highly favourable: It, thus, (normatively) enriches the debate on human-environment relations.

3. Normative meta-thought styles on the Anthropocene

The level of impact the Anthropocene has on science and society makes it even more understandable that this more-than-niche concept has developed a pluriverse of meanings and understandings (cf. *Goeke* 2022). Especially materializing from mid-2000 onwards, three main normative strands can be identified: a dystopian, a utopian and alternative intra-Anthropocene interpretation.

3.1 Dystopia: the negative Anthropocene

The dystopian thought styles of the Anthropocene share the “anxieties about the future and apocalyptic imaginaries meshed with conditions on the ground” (*Shepherd* 2021: 361), painting “negative blueprints of undesirable futures that speak to the present” (*Arias-Maldonado* 2020: 1027), resulting in what *Robbins* and *Moore* (2013) call “ecological anxiety disorder”: a fear-based response to the “negative normative influence of humans on the earth (anthrophobia)” (ibid.: 4-5), i.e. humans have not done enough to stop the materialisation of the Anthropocene dystopia; or “the inherent influence of normative human values within one’s own science (autophobia)” (ibid.: 3-4). In this thought style, the apocalypse is “here, now, already in progress” (*Gergan et al.* 2020: 103); its thought style cognition demands a dealing beyond purely rational thinking. For example, the more-than-rational, visceral (e.g. olfactory through disgusting smells; cf. *Neubert* 2020) experiencing of fear and fear-based

narratives (Cook and Balayannis 2015: 270) clearly shows that the Anthropocene is not just a ratio-based, technocentric concept, but incorporates moral, political and emotional aspects. “Intimations of dystopias” (Arias-Maldonado 2020: 1031) are becoming more viscerally felt; climate change becomes tangible through the increase in extreme weather events, for example. Dystopias therefore become a “natural response to a situation where extinction becomes a possibility” (Arias-Maldonado 2020: 1031; cf. Grusin 2018).

Here, however, lies a major risk of generating fear: While it attracts short-term attention, individuals become desensitized over time (cf. Cook and Balayannis 2015: 276; O'Neill and Nicholson-Cole 2009), needing another Anthropocene-dystopia fix – similar to drug addicts – to keep the attention on actions of the present that have severe implications for the future. Apocalyptic visions of an end of the Earth are dominant. One prominent scholar here is *Bruno Latour*, stating that “those who fight against apocalyptic talk and catastrophism are the ones who are so far *beyond* doomsday that they seriously believe that nothing will happen to them and that they may continue forever, just as before” (Latour 2015: 224), much like in a dystopian Biedermeier-esque (cf. Frisch 1996) version, best described in R.E.M.'s hit single “It's the End of the World as We Know It (And I Feel Fine)” released in 1987.

Some studies show, that this “fear framing” (Buck 2015: 372) does not foster public support for policy change; they rather suggest a positive, pro-environmental standpoint for change (Spence and Pidgeon 2010; Bain et al. 2012).

3.2 Utopia: the positive Anthropocene

If we understand utopianism as “a process of estrangement from taken-for granted social arrangements” (Garforth 2017: 15), it means that there are no political, ethical, material limits or boundaries to imagine different futures. It also means that without path dependencies, no single utopia of how to live in the worlds we (will) have created emerges.

Going along with Enlightenment thinking, the core thinking revolves around the fact that the Earth systems are coming close to its – theologically seen – completion (Hamilton 2015: 234); human impact on the Earth is considered positive inasmuch as planetary

problems can be tackled through human intervention (c.f. Veland and Lynch 2016: 2). Planetary boundaries are not at the foreground as human-induced technological innovation allows for sheer endless forms of bypassing planetary boundaries.

In this sense, ecomodernist utopian thinking of a good Anthropocene “demands that humans use their growing social, economic, and technological powers to make life better for people, stabilize the climate, and protect that natural world” (Asafu-Adjaye et al. 2015: 6). The Ecomodernist Manifesto thus focuses on the normative shift from a bad to a good Anthropocene, conveying the desire for a better life (Arias-Maldonado 2020: 1034). Planetary boundaries are acknowledged, even though the current crises are temporary at best. Here, the Ecomodernist Manifesto states that the “total human impact on the environment [...] can peak and decline this century. By understanding and promoting these emergent processes, humans have the opportunity to re-wild and re-green the Earth” (Asafu-Adjaye et al. 2015: 14). With this thought style, path dependencies cease to exist as the strong belief in human power to change everything overrules this.

For another shift of perspective of temporality, ecomodernism raises the point that utopias do not only happen in a distant future but can already be materialized utopias from the past. Western societies, in their way of thinking, could be considered fulfilled – (pre-)modern – utopias (c.f. Pinker 2018; cf. Rosling et al. 2018), or put in other words “are we not the utopian future of the past?” (Arias-Maldonado 2020: 1035). Continuing this train of thought, we (i.e. the Western society) live in the modern utopia, whereas the Anthropocene has popped up as a side effect that was not accounted for. Negative effects of the Anthropocene shall then, in ecomodernist thought styles, be – paradoxically – solved by future technology (e.g. in the form of geoengineering) without negative effects, creating in itself another modernist utopia to solve technology-induced problems by applying more technology, a phenomenon labelled as a “hypermodern narrative of control” (Fremaux 2019: 88).

In so doing, *Buck*, focusing on the role of enchantment in the Anthropocene, argues that not only capitalists can be enchanted, but “everyone can enchant an object, a habitat, a landscape” (2015: 371), laying the foundation of a positive thinking of the Anthropocene, even though she acknowledges that positive thinking does not necessarily lead to material change.

In so doing, her conceptual shift goes from considering the Anthropocene as a frame towards the Anthropocene as a practice, where the role of the body (as a “forced temporal migrant”; *Buck* 2015: 372) is to re-do rather than re-tell the Anthropocene. Materialization of change through practice, she argues, is vital to articulate a different, more positive (or as she calls it “beautiful”; *Buck* 2015: 369) Anthropocene. Change through action is to co-create new visions of the future, with the help of technology to “reawaken senses of wonder, an ethic of care, an aesthetic and cultural production” (*Buck* 2015: 369). To continue with the perspective of practice, the concept of ‘intentional communities’, groups of minimum five adults who live together is used to “enhance their shared values or for some other mutually agreed upon purpose” (*Sargent* 1994: 15). Upscaled, *Ellis* (2011b: 43) argues that the Anthropocene is far from being a crisis but “the beginning of a new geological epoch ripe with human-directed opportunity” where the only hindrance is human self-doubt. This holistic view that “knowledge and technology, applied with wisdom, might allow for a good, or even great, Anthropocene” (*Asafu-Adjaye et al.* 2015: 6) has the pre-conceived notion of one singular humanity (and one singular utopia), where the changing factor is the form of technology used to achieved the utopian goal of a good (or great) future. *Maslin* highlights the *inclusivity* of the Anthropocene, facilitating scientists to go for calls of political action, making the Anthropocene an inherently political concept (*Maslin in Barry and Maslin* 2016: 2).

3.3 Intra-Anthropocene thought style expansion beyond utopias and dystopias

While this utopia may generate hope to some, “there is no such thing as a unanimous utopia” as “utopia and dystopia has always been in the eye of the beholder” (*Arias-Maldonado* 2020: 1034); fostering the argument of the multiplicities of the Anthropocene thought styles.

Going even further, this way of thinking facilitates the justification of a post-political age, where humanity’s goal is clear and the pathway to this utopia is achieved by a global technocracy with the demands of economic management and ‘enlightened specialists’” (*Barry and Maslin* 2016: 1) that replace political debate. The shift of focus goes thus from the Anthropocene’s capability of epochal transformation to a ‘post-political age’-like (cf. *Žižek* 2016) reduction to technological solutions in pursuit of non-debated utopias, turning actual utopi-

as into fantasies without political resources to pursue them (*Arias-Maldonado* 2020: 1025).

One refreshing thought style on the normative interpretation of the Anthropocene does not focus on large-scale changes, global climate change or global biodiversity loss but rather highlights the ordinary or banal, unnoticed Anthropocene of daily lives. *Swanson* (2017), in her studies on Iowa as the prime example of one of the most ruined landscapes in the United States of America, finds out that drastic changes – what she calls “ruinations” (ibid. 2017) – of landscapes are hardly being noticed, making it difficult to call for political action (as the problem is not *seen*; cf. *Fleck* 2011a). They dwell in dystopias or utopias. *Brichet and Hastrup* (2019) use the term ‘mild apocalypse’ to embed this little to none-awareness of lived social-ecological challenges. Similarly, *Fredriksen* speaks of “less-than spectacular stories” (2021: 534) where the “twinned spectres of the future ruin or redemption” (ibid. 2021: 532) are in the background. She embeds them in an ‘ordinary Anthropocene’, i.e. “the ongoing, everyday more-than-human relationships, actions and less-than planetary assemblages through which the Anthropocene is sensed and lived” (*Fredriksen* 2021: 532).

4. Reactions and answers to the Anthropocene

As the previous set of thought style positionings in the realms of utopias, dystopias and banalities have shown, the conception of the Anthropocene covers a great array of perspectives, starting and end points, while remaining an all-encompassing, almost meta-level-like framing. Scalability and impact are favoured in this scenario; in-depth concretisations on what the Anthropocene *is* and what it *does* remain vague at best. As *Nail* suggests, the Anthropocene – along with its paradoxicalities and incommensurabilities – “will likely stay with us as a productive term of contestation” (2019: 375).

Thus, it does not come as a surprise, that the Anthropocene has provoked a great set of criticisms (e.g. for being anthropocentric; *Chernilo* 2017; *Malm and Hornborg* 2014) and reactions that shift the focus away from a universal ‘anthropos’ (*Demos* 2017) and its date-oriented discourse that “marks an elaboration of existing hierarchies of scientific knowledge and human worth” (*Gandy* 2022: 373-374), which fall in a Eurocentric trap of epistemological reductionism mani-

fested in the imposition of a singular starting point of a human-centred epoch (ibid.; cf. *Saldanha* 2020). Concerns for re-inscribing and perpetuating white supremacy (*Mirzoeff* 2018) and calling for the inclusion of Indigenous knowledge (*Davis* and *Todd* 2017) are voiced, as well as the under-valuation of petrocapi-talist impact on the destruction of the environment (*Moore* 2016; *Haraway* and *Kenney* 2015; cf. *Landau* and *Toland* 2022: 14).

More in-depth criticisms on the Anthropocene have already been made elsewhere (e.g. *Demos* 2017; *Fremaux* 2019; *Grindsted* 2018). Nevertheless, it is interesting to observe the criticism-inspired thought style expansions of the Anthropocene, which ultimately lead to semantic shifts, concretisations and re-brandings of the Anthropocene. Tanking aside the pre-ideas and proto-Anthropocene thought styles, *Figure 1* takes *Crutzen* and *Stoermer* (2000) as the conceptual anchor point from which the discussions in the 21st century have expanded. First, focusing on the normative embeddings, it becomes apparent that in the first seven years after the Anthropocene's proclamation, main debates surround the question of starting point and getting to grips with what the Anthropocene actually means. Negative human impacts prevail, which materialize in what *Zalasiewicz* has called a "cosmic tragedy" (2008: 240) or in *Rockström* et al. (2009) planetary boundary concept, which has become widely cited (over 6,000 times) and discussed, normatively branding this thought style as the dystopian (cf. above) "bad Anthropocene" (*Dalby* 2016). The planetary boundary concept does acknowledge that human societies have already altered the parameters of the Earth system, leading to new impulses for critical discussions on human-environment interactions both from natural (*Waters* et al. 2016) as well as social sciences perspectives (*Brand* et al. 2021). The positive spin of the utopian "good Anthropocene" (*Ellis* 2011a), in its own right a "hypermodern narrative of control" (*Fremaux* 2019: 28), can be seen as a counter-interpretation of the Anthropocene. Going even further, the ecomodernist manifesto then speaks of the "great Anthropocene", where "human prosperity and an ecologically vibrant planet are not only possible but also inseparable" (*Asafu-Adjaye* et al. 2015: 31). As shown above, the implicit reaction to the good, great and bad Anthropocene can be found in the intra-Anthropocene thought style expansion towards a Biedermeier-esque indifference to social-ecological change and impact (*Swanson* 2017; *Fredriksen* 2021).

In their own right, the three normative strands still

maintain their conceptual and semantic Anthropocene boundaries. With a scientific lag of a decade, the second half of the 2010s has experienced numerous propositions for Anthropocene thought style expansions and context-based sharpening; 26 of those, particularly recited in geographic realms, can be clustered in the following six categories (*Fig. 1*):

- (1) New ways of thinking:** Going beyond the discussion of good versus bad versus banal, *Haraway* (2016), with her widely recognized (and criticized, for example as "terminological incontinence"; *Hamilton* 2017: 70) Chthulucene, argues for a more in-depth reflection on the entry point and objectification of a new epoch. The "abstract, mythical and storied meaning" (*Erickson* 2020: 117) of the Chthulucene is used to identify new forms of human and non-human flourishing, creating new layers for the creation of new forms of cognition (*Haraway* 2016). While *Haraway* uses alternative storytelling, *Perry* (2018) implicitly argues against the focus on temporalities of the Anthropocene and – with her concept of the Anthropocene, exemplified by the use of graphic novels – towards the amalgamation of arts and sciences to create new scenes for knowledge generation.
- (2) Focus on the capital:** By rejecting the universality of humanity of the Anthropocene, the Capitalocene (*Moore* 2016, 2017, 2018; with different time frames, see *Malm* 2016) takes up different world views and considers capital as the driving force of climate change. A direct thought style expansion of the Capitalocene is the Racial Capitalocene (*Davis* et al. 2019; *Sharpe* 2016; *Vergès* 2017). Here the authors define the current epoch as the age of racialized capital, focusing on the intersectionality of race, capitalism, slavery and climate change.
- (3) Focus on production and the economy:** In a similar vein of the Capitalocene, and its conceptual predecessor, *Norgaard's* (2013) Econocene highlights the role of the (quite vaguely kept definition of the) economy in the 20th century that has become the driving force of rapid global change. Similarly, *Gibson-Graham* et al. (2019) argue for a Postwar Manufacturingocene to highlight the industries impact on social-ecological systems. *Demos* (2017), in his Corporatocene, concretises the Econocene towards the rule of corporations. In his reading, corporations are to be understood as institutions. More hands-on and tangible thought

styles come from the Plantationocene, i.e. the age of the plantations as materialized representations of modern economies and human-environment relations (Haraway et al. 2016). Species loss, racialized violence and land alienation through the (re-)introduction of plantations – both literally and figuratively are here at the foreground.

(4) Focus on people: Shifting the attention from human-environment relations towards a differentiated analysis of humanity, this focus particularly highlights power asymmetries and gender inequalities. The least critical here, *Castree* (2015) calls his thought style expansion the Anthropocene (note the identical writing with *Perry* 2018) and has the network, publications and institutions that deal with the Anthropocene at the core of his interest. He, quite polemically, argues that particularly geographers should enter the scene to use it to further promote their discipline. More content-oriented and with relations to the economic focus above (but more on a concrete-individual level), *Swyngedouw* (2015: n.p.) speaks of the Oliganthropocene, i.e. the “epoch of a few men and even fewer women”. A year before, *Raworth* (2014) critically addressed those gender asymmetries, especially within the Anthropocene Working Group. She calls for a better representation of female scientists in Anthropocene research, to go beyond what she sees as the Manthropocene. Feminist environmentalist critique has since then increased. *Di Chiro* (2017), for example, speaks of the White (m)Anthropocene, while *LasCanta* (2017), in her ecofeminist critique, uses a more direct metaphor of the Faloceno [Phallocene], an epoch that is dominated by the occident and grounded in uneven social relations, destructive hierarchies where predominantly women and the environment are affected. Historicizing the Anthropocene, *Sloterdijk* (2015) speaks of the Eurocene as the Anthropocene with a distinction of human actors, focusing on the role of Europeans. In so doing, it is a direct critique on *Crutzen’s* “politeness” or “fear of conflict to highlight the role of Europeans influence on the earth” (*Sloterdijk* 2015: 328). *Fressoz* (2015) sharpens this analysis even more and speaks of the Anglocene, arguing that 65% of all the carbon emissions from 1800 to 1950 were generated by Great Britain. An even more pointed version of the Eurocene can be found in *Mirzoeff’s* (2018) self-explanatory White supremacy-scene. With the Colonial Anthro-

pocene, *Gómez-Barris* (2019) hits the same, though less poignant note, that the colonial impacts in the Anthropocene have to be acknowledged. She explicitly calls for a deconstruction and visibilization of power asymmetries, unequal social ecologies and ecocides. *Yusoff* (2018) tries to achieve similar things with the concept of a Billion Black Anthropocenes, calling for a shift of perspectives and arguing that the Anthropocene does more harm than good. Hence, she concludes that imperialist, white settler history has to be critically addressed. Adding a current political dimension to this way of thinking, *Patel* (2018) speaks of the Misanthropocene, where catastrophes are politically used to implement misanthropic and racist policies.

(5) Focus on technology: One of the first explicit thought style expansions towards technology is *Gurevitch’s* (2014) Mediocene, a conceptualisation of the visualisation and virtualization of the planet’s future. The quintessence here is the, non-time sensitive “rationalisation of the earth’s systems under the auspices of digital media’s simulative effects” (*Gurevitch* 2014: 103). A more critical political ecology stance comes from *Hornborg’s* (2015) Technocene, where his focus lies on the role of science to promote technology. In particular, he criticises science’s representation of technological progress as ‘natural’. In this vein, a very interesting notion comes from *Lovelock* (2019) and his Novacene, where he sees us entering the age of hyperintelligence, focusing on the role of more-than-human, cyborg interventions. Less future-oriented, but docking to debates on of domination and suppression, particularly in terms of politics, *Nail* (2019) sees the Kinocene fruitful to theorize the role of movement.

(6) Focus on waste: Closely knit to technology and media, *Parikka* (2015) speaks of the Anthrobscene, the obscene age of media, where toxic wastelands and geological legacies are generated through the omnipresent digital lifestyle of constant media production and consumption. Less digital and more tangible and specialized, *Jagodzinski* (2018) calls for the use of the Plasticene to create more awareness of the enormous use of plastic. This thought style is later broadened by *Cloke’s* (2020) Vastocene, where waste is understood as an umbrella term for everything “out of place” (*ibid.*: 384). In this sense, waste is a materialized form of the negative effects of mass consumerism.

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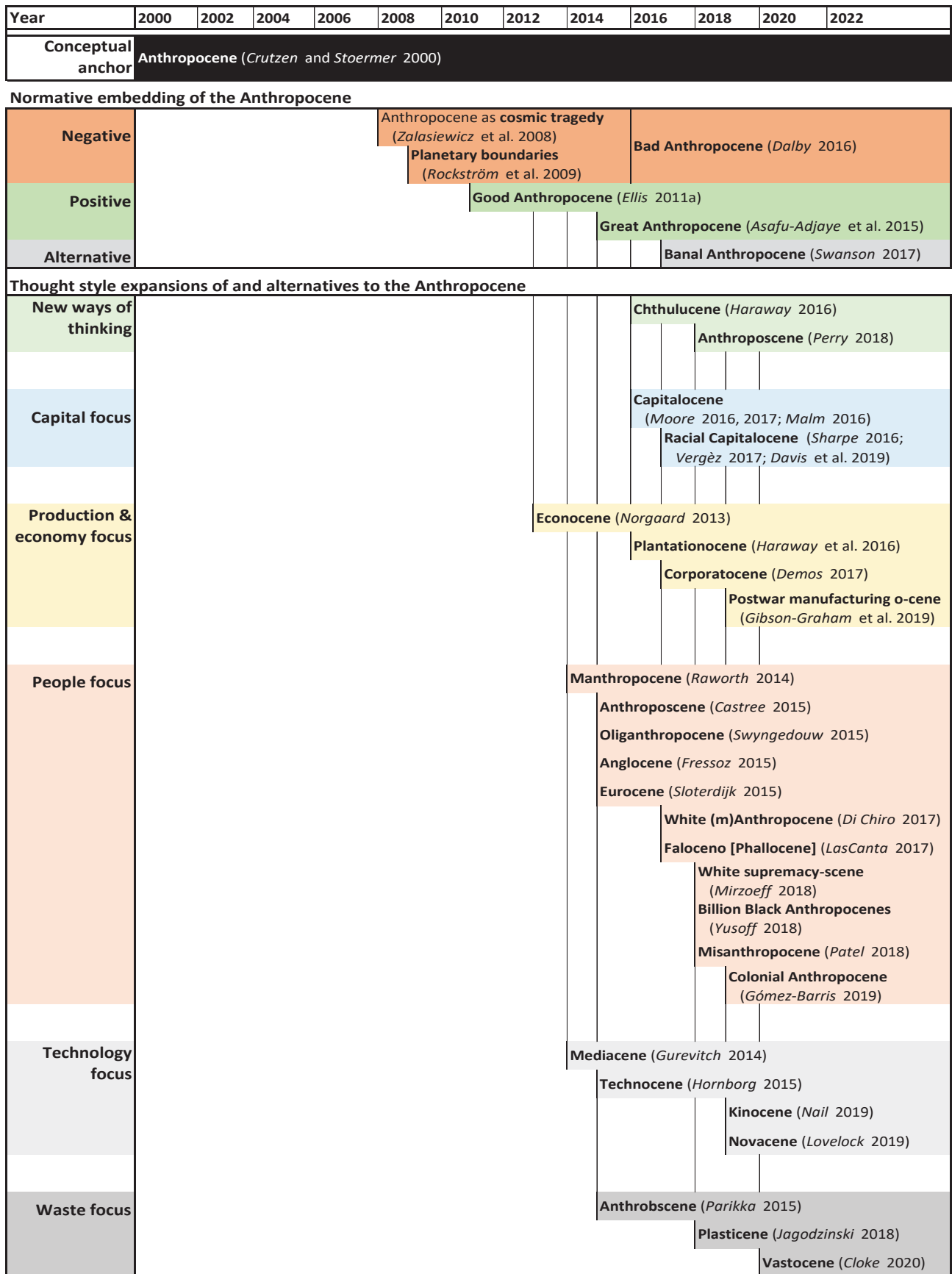


Fig.1 Conceptual anchor, normative embedding and thought style expansions of the Anthropocene. Source: Own elaboration

5. Conclusion

This review article has shown that the Anthropocene is far from being an a-political concept, a mere stratigraphic discussion, a single utopia, or dystopia. Setting the conceptual anchor with *Crutzen* and *Stoermer* (2000), it has become apparent that the elevation of human's importance in human-environment relations manifested in the concept of the Anthropocene has gone viral. The challenge of virality of a "novelty" (put to paper on only two pages by *Crutzen* and *Stoermer* 2000, highlighting the aspect that in-depth discussions on the Anthropocene were left aside in favour of a concise, impactful statement), however, is that the pre-ideas of the Anthropocene attract too little attention. The question remains, to what extent the proto-Anthropocene discussions have already pre-touched the current debates on the Anthropocene and its thought style expansions.

Passing the temporal anchor of 2000, the fascinating aspect is the visualisation of the scientific lag of ideas. As shown above, the second half of the 2000s has recently started to explore the normative implications of the Anthropocene. The good, the bad and the banal Anthropocene have become three main meta-thought styles, culminating in heated debates in the first half of the 2010s. One particular line of friction is whether to see the role of humans in human-environment relations in utopian or dystopian fashions. It remains to be further explored, whether the utopia-dystopia divide is, in reality, missing the point of the debate. In this sense, I consider *Atwood's* (2015) ustopia-framing as quite fruitful, combining dystopian and utopian thought styles to paint a more differentiated picture of spatio-temporal anchoring and praxis-driven narratives.

Finally, what this paper has shown is the continuously increasing need for scientists to invent, re-invent, specify and brand the Anthropocene through semantic changes. So far, even though concepts of the Capitalocene, Chthulucene or Plantationocene have gained greater traction, the virality of the Anthropocene, however, has not been reached. To put it bluntly, the pluriverse of reactions to and thought style expansions of the Anthropocene highlights even more the actual benefit of the Anthropocene anchor: To stir up controversy, friction, to normatively engage science and society alike, to re-frame established thought styles (e.g. ecomodernist, critical feminist, political ecologist) and their arguments, to make the debate

more lively, inclusive and engaging. But, maybe, this is also some sort of utopian thinking. We will see.

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