DK: This is ARREST from the Punk Ethnography website, my name is Douglas Kidd.

ARREST is a series of short pieces that use anecdote, theory and reflection to share an idea that we hope you find arresting- an idea that stops you and helps you think a little differently.

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Anthropocene, capitalocene, chthulucene.

In 2000, Paul Crutzen, a Dutch atmospheric chemist and Nobel prize winner, first proposed the term anthropocene to describe a new geological epoch.

In this episode, I want to explore this arresting word for our geological epoch, discussing how the term might help us describe the challenging state of the world we live in and reflecting on a couple of alternative terms.

Crutzen first blurted out the word in a moment of frustration at a meeting of the International Geosphere-Biosphere Programme when he was trying to distinguish our current moment from the rest of the Holocene. Two years later he formalised the proposal in a co-authored piece in the group's newsletter in which he referenced the dramatic impact on the earth of human actions, which have led to changes in biodiversity including mass extinction; atmospheric changes such as global warming; changes to the hydrosphere including ocean acidification, loss of ice sheets and glaciers; changes to the biosphere that include habitat loss, invasive species and domestication and the rise in human population, consumption and waste production. He wrote:

Considering these and many other major and still growing impacts of human activities on earth and atmosphere, and at all, including global, scales, it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term "anthropocene" for the current geological epoch. The impacts of current human activities will continue over long periods.
P. J. Crutzen and E. F. Stoermer. 2000. "The 'Anthropocene.'" IGBP Newsletter 41 (May): 17–18.

By pointing to the global scale and long time period of human impacts, he placed them on a geological level. The idea was taken up by the International Union of Geological Sciences, the body responsible for the formal naming of geological periods, which set a working group in 2009 to consider Crutzen's proposal. In 2023 the group formally proposed the Anthropocene as the name for a new geological epoch with a start date of 1950, but in 2024 the proposal was rejected with the International Union of Geologic Sciences saying:

"Despite its rejection as a formal unit of the Geologic Time Scale, the Anthropocene will nevertheless continue to be used not only by Earth and environmental scientists, but also by social scientists, politicians and economists, as well as by the public at large. It will remain an invaluable descriptor of human impact on the Earth system."

A good starting point for a discussion about the anthropocene is to ask when it began. Writing in 2015, Crutzen outlined three approaches to choosing a start date and I want to look at each in turn as they each give different light to the concept of the anthropocene and the impact humans on our planet..

The first approach Crutzen identified was based on the earliest effects humans had on the planet. Human migration into a new ecosystem is associated with the extinction of megafauna and deforestation in various parts of the world. The birth of agriculture was a gradual process that has occurred independently in a range of places around the world since the last ice age ended 12 000 years ago. The warming climate was conducive to the planting of crops, domestication of animals and the development of increasingly permanent settlements. All of these changes can be identified in the geological and archeological record, although at different times in different locations.
Identifying the start of the anthropocene with these events focuses attention on their significance as new ways in which humans organised themselves and interacted with their environments. However there is a danger that we could imagine a kind of inevitability to the progression of history towards our current moment- a sense that humans would always choose a path that would lead to despoiling and damaging the planet. It is easy to lock our thinking into the idea that progress- defined as technological complexity, increased energy use and wealth measured economically- is an inevitability and that agriculture necessarily leads to industrialisation with its sense of separation between humans and nature. This timing also homogenises humanity, implying that all humans would always make this kind of choice eventually. By this logic all societies that were colonised or absorbed by the modern industrial work are labelled as primitive or backward, or are romanticised as a repository of ancient wisdom rather than being recognised as examples of the many ways in which groups of humans have organised themselves throughout history and across the globe and even that differing societies can make different choices about the paths they take.

The second approach identifies the start of the anthropocene with a particular invention or method of organisation that can be seen as pivotal to industrialisation, globalisation, extractivism and colonialism or some other aspect of how our modern world works. An example is the invention of the steam engine 1784 which Crutzen cited as the start date in his initial article.
Other suggestions have focused on the 1500s as the era of enclosure, the slave trade and the colonial age as a start point and we will return to this idea later.
The process of identifying moments, inventions and changes in social and economic organisation that played a key role in the development of the anthropocene helps us to think further about culpability. On the one hand this approach can lend itself to the same sense of inevitability: once we invented the steam engine, global warming was inevitable, we can be tempted to say. However, we can also take the opposite view and say that if there were moments in history where specific groups of people made particular choices that led to where we are now, then the actions we take matter and the opportunities to imagine the world in a different way are available to us.

The third approach involved picking a recent date. Crutzen changed his own mind later in his career and identified 1945 - the dropping of the first atomic bomb, as the start date. The Anthropocene Working Group chose 1950, citing as their reason the dramatic increase in the impact of human activity since the end of the Second World War, an idea captured by geologist John McNiell in the term the Great Acceleration.
McNiell identified 12 socioeconomic indicators, such as global population, and 12 earth system indicators such as atmospheric CO2 that show dramatic rises in the last 75 years. The suggestion of a recent start date focuses attention on current human actions and the choices we make individually and politically. Within a single human lifespan the majority of the human population was added and most of the fossil fuels ever used were consumed. The unimaginable scale of the anthropocene is revealed by looking at the anthropocene through this lens.
For the International Union of Geological Sciences, the recent start date was a key consideration in their *rejection* of the anthropocene. There has simply not been enough time to identify it as a new geological age- we live in unprecedented and uncertain times and since there is almost unanimous agreement that the way humans collectively live on the planet now is unsustainable it is difficult to define it as a geological age quite yet.

I think the philosopher Timothy Morton has something useful to say here- I mentioned him in the third episode of Arrest! In that episode I talked about his notion of hyperobjects which he sees as emblematic of the anthropocene- this epoch when the aggregated actions of humans interact with other earth systems in massive, unpredictable and unfathomable ways. He is less interested in unpacking exactly when the anthropocene began or how long it will last, more in humans accepting its existence in order to begin to respond. His philosophy offers a way to talk about the complexity and impossibility of the situation and encourages imaginative, artistic and practical responses.
Morton's view resonates with that of the committee- the exact definition of the date is less important than the motivation to address the issues the anthropocene encapsulates.

From this discussion, I think it is reasonable to acknowledge that the anthropocene is a concept that enables us to wrestle with the impossible, frightening and awesome times we live in. We can use the discussion and discourse around the anthropocene to consider the causes, roots, pathways, inventions, and social structures that lead to and characterise the world we find ourselves in and help us to think about how we live in it.

But it also opens up deeper questions and I would draw out three from what we have discussed so far:

- whether the anthropocene is inevitable,
- whether all humans are equally culpable
- Whether it is reasonable to characterise our current times as a new age at all, or whether it is something less stable and certain.

We can now ask: are there alternative words we might use instead? Well yes!

It is worth saying first that the couple of alternatives I am discussing here are not offered as alternative terms of our geological epoch- rather their authors see them as tools to think with socially, philosophically and politically.

The first term I want to highlight is: the capitalocene focuses a critical lens on the idea that our current predicaments are inevitable and that ALL humans are equally to blame. Instead the focus shifts to capitalism as a way in which the world is organised for the benefit of an elite class.

In his book Fossil Capitalism, Andreas Malm suggests the term capitalocene to mark a period beginning in the latter half of the nineteenth century when fossil fuels became integral to a new logic of capital accumulation. He argues that fossil fuels- coal initially- came to dominate the production of cotton in England- and then to fuel industrialisation there and further afield, not because it was cheaper than other forms of power such as water, but because it enabled capitalists to control labour and nature, and maximise individual capital accumulation. Owners of water mills were tied geographically to rivers, were beholden to the weather and the flow of water, needed to build co-operative relationships with other river users and with their workers whose work was tied to the rhythms of nature. The portability and availability of coal reframed all of this- a steam factory powered by coal allowed capitalists to regulate time, location and labour relations. It allowed capitalists to see themselves as masters of nature. The term capitalocene therefore is important as it clarifies that it is not humanity in its entirety that is responsible for our current predicament- it is a small elite; it is capitalism as the way in which we organise ourselves and our relationship with nature.

The capitalocene shares with Morton's conception of the anthropocene the idea of a call to action, for a rethinking of our conception of nature and society, an end to the separation between them.
But the capitalocene offers a focused analysis of the way we got here and invites discussion about the way our social relations and economic organisation organise the world ecosystem we are producing and produced by. We are not all equally responsible for the anthropocene- it is not inevitable, humans have, and can choose to live in different socio-ecological relationships. It is the actions and choices of a small elite within the complex network of institutions and systems into which we have all locked ourselves that perpetuate our current trajectory, and what we are all responsible for is actions that acknowledge and address this.

Finally I want to turn to a word that addresses the question of whether we are truly in a new age or in something less certain and stable.

The chthulucene is a term coined by Donna Harraway and discussed in her book Staying with the Trouble: Making Kin in the Chthulucene. She prefers to think of the anthropocene as a boundary event rather than a geological epoch. Boundary events represent often violent shifts between relatively stable periods in earth's geological and biological history. Conceptualising the anthropocene thus, and acknowledging some value in the analytical power of the capitalocene, she offers the chthulucene as way to think with the epoch to come. What she wants humans to acknowledge is their situatedness in, and responsibility towards, a more-than-human world. The chthulucene is meant to evoke the earth, the interweaving of species, the connections between living and non-living, the tentacular and mutable, the provisional and the speculative. We cannot know what is to come, but we must acknowledge that it involves us in multi-species assemblages- it always has, and the whole planet suffers when one part of the assemblage is out of sync with their role.

In searching for a slogan for the chthulecene she settles on the imperfect: Make Kin: not babies. Making kin is about making connection, space for, common cause with our neighbours and co-inhabitants of all species and kinds. The reproduction of more humans on the planet is less important than, perhaps currently detrimental to, the reproduction of a planet to share. The chthulucene then is a term for a future we can imagine and use to inspire our action in the present, action within a more-than-human world we all share.

The exercise here is not to choose a favoured term. Rather it is to recognise that the words we use to help us to think will focus our attention and our actions in different ways and so we must take care to choose words that help us think and act well. Each of these terms tells a story about why the world is the way it is and the actions we take, the lives we live, will flow from these stories. According to Harraway:

“Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places.”

We live and think in the anthropocene, a time that calls us to respond. We live and act in the capitalocene, a time that demands alternative ways to organise our societies and economies. We can choose to live and work in and towards the chthulocene, finding joy in our entanglement in a world we share.

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