# **Cyanotribes:** *A Speculative Journey into a Post-Anthropocentric Future*

## Title Slide

- Welcome.
- illustrator, module leader on the BA Illustration here at FU and an early career researcher.
- I have a deep interest in the environment and have this broad question that informs my practise based research practise which is 'how can art and design be used to mitigate the climate emergency'
- Currently exploring more specific aspects of this through micro projects
- Cyanobacteria, 2023 group show at Haunted Landscapes responding to the theme of Nature, Super-Nature, and Global Environments
- Wanted to consider what life on earth may be like millions of years into the future.
- Anthropocene epoch has come to end, which has been brought about by mankind
- Post anthropocentric future
- More importantly, a future without humans
- Abstract idea – raises existential / philosophical questions
- Share research I've undertaken that has helped unpack this before walking you through Cyanotribes

## (1) The Proposal of the Anthropocene

- 'Big time' a relatively new concept.
- Earth is approx. 4.5 billion year old
- Divided this time period up into units of 'geological time' (Eons, eras, periods, epochs and ages)
- International Union of Geological Sciences (IUGS) - organization that names and defines epochs, have done so based on geological evidence / rock strata.
- We have only (relatively) recently, been able to do so through the accumulation of scientific knowledge and data
- We are *officially* here (Holocene epoch)
- Begun around 11,700 years ago after the last major ice age (very short period)
- Last few epochs (Pliocene, Pleistocene and Holocene) are also relatively small when put into scale / context
- Dinosaurs have come and gone as have countless other species.
- 'Homo Sapiens' (wise human) date back to approx. 190,000 years ago.
- We represent only about 0.007% of the entire history of the planet!
- Carl Sagan's 'Cosmic Calender' compress the entire history of earth into one month. It is only in the last few seconds of the last minute of December 31st that humans appear.
- *Unofficially*, we have entered and are now living in a new epoch.
- Anthropocene
- *"The Anthropocene Epoch is an **unofficial unit of geologic time**, used to describe the most recent period in Earth's history when **human activity started to have a significant impact** on the planet's climate and ecosystems…..made popular by biologist Eugene Stormer and chemist Paul Crutzen in 2000." Definition from* https://education.nationalgeographic.org/resource/anthropocene/
- "Term has **not been formally adopted** by the International Union of Geological Sciences (IUGS), the international organization that names and defines epochs. The primary question that the IUGS needs to answer before declaring the Anthropocene an epoch is if **humans have changed the Earth system to the point that it is reflected in the rock strata."** https://education.nationalgeographic.org/resource/anthropocene/
- Anthropocene is not official – yet to be recognised by IUGS.
- Consider it as a 'proposal'
- Characteristics that make this 'epoch' quite unique and interesting:

(1) Never, have we named an epoch or period without knowing how it ended.

- We have always done this retrospectively / by looking backwards in time.

(2) Never before has the actions of a single species significantly impacted on the earths rock strata

- *"science has sufficiently well established that climate change is underway, that the problem is mostly human-caused, and that there are significant threats to human and environmental systems* **(Solomon et al. 2007; Parry et al. 2007)"**

(3) We have NEVER lived through an epoch, or transitioned into a new one, whilst simultaneously being aware of this fact

- Never **named** an epoch or period in realtime / in the present moment
- Until recently, not been able to recognise units of geological time at all let alone be conscious of this concept.

- What is the significance of all this?
- This gives us pause for existential thought.

## (2) Post Anthropocentric Possibilities

- **How will the Anthropocene end**?
- We simply don't know.
- What happens if we look into the future?
- Not worked out how to look into the future with certainty
- Absurd to be certain of anything (Voltaire)
- In some areas, can start to look at trends, date, evidence, research etc. and 'predict' scenarios
- Re. climate change, have acquired enough data to do that and start speculating.
- **Stockholm Resilience Centre,** find that *"humankind risks getting stuck in 14 evolutionary dead ends, ranging from global climate tipping points to misaligned artificial intelligence, chemical pollution, and accelerating infectious diseases."*
- We could however go to war, starve, be hit by an asteroid, invaded by aliens etc.
- **In all those scenarios, what happens to the humans**?
- Look at 'posthumanism' which explores a range of existential philosophical questions building on the classical concept of 'humanism' i.e. 'what does it mean to be human?' 'how do we define humanity?'
- Inc. cybernetics, biomechanics, AI etc.
- Philosophers have always grappled with this question.
- Linked / related to the way we interact with our surrounding environment and as that changes, so we change so highly relevant when considering a post anthropocentric future.
- In the case of a future whereby humans have ceased to exist, necessary to speculate - '*form a theory or conjecture about a subject without firm evidence.*'
- Need *some* evidence, otherwise it would be pure fiction.
- How can we go about achieving this? Are there any frameworks or methodologies we can employ?

## (3) Science Fiction Framework

- The Time Machine by H G Wells
- Chapter 11, main character jumps forward millions of years to an earth that is inhabited by '*monstrous crab like creatures*', '*giant butterflies*' and '*green slime*'.
- Struck me profoundly as it forced me to consider what the planet may look like 'after humans'
- One of the only narratives I can find that touches upon a future earth that does not contain humans
- Found it very hard to find narratives in SF that do not contain any humans.
- SF does give us an ideal framework in which to speculate on what a world without humans would look like
- *"uses actual scientific facts or theories for the source ideas or framework of the story. It has some scientific content, however speculative. If it breaks a law of physics, it knows it's doing so and follows up the consequences. If it invents a society of aliens, it does so with some respect for and knowledge of the social sciences and what you might call social probabilities. And some of it is literarily self-aware enough to treat its metaphors as metaphors"* **Ursula LeGuin**
- We gather facts, then speculate upon them in an informed manner

## (4) Future Modelling through Cli-Fi

- Kim Stanley Robinson uses writing as a problem solving tool, to address the complex problem of climate change and requires a high level of joined up thinking or 'systems thinking' (WWF)
- Some call the genre he works within 'speculative fiction'
- *"Speculative fiction encompasses that which we could actually do. Sci-fi is that which we're probably not going to see."* **Margaret Atwood**
- Sub genre defined by the speculation being more accurate, possibly as a result of being more informed / greater depth of understanding and level of critical thinking
- Cli-Fi' (Climate Fiction) more accurate sub genre as research it is informed by relates specially to climate change
- Case study: Award winning **Mars Trilogy** is about terra forming on Mars over a period of 200 years as a result of Earths eco systems / sociological institutions breaking down
- After a trademark deep dive into sociological, technological and scientific and egalitarian theory, he is able to suggest ways in which this could actually work
- Known for taking a 360 degree approach to problem solving to propose ways in which we can overcome / respond to climate change
- In his own words, he says that *"science fiction is more of a modelling exercise, or a way of thinking"* **Kim Stanley Robinson** (publicbooks.org)
- Concept is catching on in academia -
- *'New Empiricisms in the Anthropocene: Thinking With Speculative Fiction About Science and Social Inquiry'* (https://journals.sagepub.com/doi/10.1177/1077800420943643
- Both examples are narrative based.
- Can a SF based methodology be applied to a non narrative form?

## (5) Non Narrative Approach

- This example is taken from an essay (so still literature based) for Physics Today by Gerard K. O'Neill (who as a Princeton professor of physics) entitled **'The Colonization of Space', 1974.**
- Non narrative style of writing with editorial illustration
- Speculative, based upon facts / research concerned with building habitable cylinders that spin on their axis through space. The cylinders take on an Eden like quality and are arguably utopian.
- Various illustrators / artists have been invited to visually respond to it inc. Rick Guidice, Don Davis
- Interesting as the illustration begins to taking on its own narrative
- This is also due to the way the artists have chosen to 'illustrate' and bring to life the text
- *Can a SF methodology be applied to a non literary form?*

## (6) Experimental Worldbuilding Exercise

- World building exercise and experimental in nature.
- In March 1993, Martyn J. Fogg designed a hypothetical solar system around the known characteristics of the star 82 Eridani which he brought to the conference CONTACT: Cultures of the Imagination.
- Participants spent 72 hours responding to Foggs' material to create preliminary design work for what was to be known as the Epona Project.
- Project begun with a 'departure point' which focused on four major geological features then moved through 3 'acts' which methodically explored things like flora and fauna, evolution, growth, trees, living organisms (Pentapods).
- The project continued for several years after but was doomed to fail due to the complexity / nature of it.
- Over 100 participants in 4 countries, correspondence and developments were hard to keep up
- The more they researched, the more complex the project became and the more they became entrenched in the science that informed it
- Ground to a halt in 1995
- Provides a strategy for worldbuilding
- It also dealt with the creation of a world without humans

## (7) Future Ecologies

- 'Future Ecologies' – area of enquiry concerned with how we envision the state of nature and our human relationship with it in the future.

- Cross disciplinary methodology (combines arts and sciences) to give us an academic framework to theorise and respond to potential future problems.
- **After Man: A Zoology of the Future (1981)**, Dougal Dixon uses this methodology to explore evolutionary ideas based on his own knowledge as a geologist and palaeontologist.
- Illustrated by several illustrators including Diz Wallis, John Butler, Brian McIntyre, Philip Hood, Roy Woodard and Gary Marsh.
- *NB: he was hugely inspired by the same section of H. G. Well's 'The Time Machine' that I referenced earlier.*
- *"Explores a hypothetical future set 50 million years after extinction of humanity, a time period Dixon dubs the "Posthomic", which is inhabited by animals that have evolved from survivors of a mass extinction succeeding our own time."*
- Includes creations of 'niche' species (species that have responded to specific environmental conditions and filled specific 'niches') such as Rabbucks, Predator Rats and whale like penguins – based on rabbits and rats.
- Several ecologists have drawn similar conclusion in there works e.g. Jan Zalasiewicz (a geologist at the University of Leicester) in his 2008 book 'The Earth After Us'
- The book proved incredibly popular and was printed in several editions all round the world. The last repress was by BrakeDown Press in 2021 (40th Anniversary edition).
- Penetrated popular culture.
- Why?
- Convincing / believable? Visually appealing? Easy to digest?
- Visual language employed we associate with the science community and therefore take as reliable fact? Think Ernst Haeckal.
- Can be considered a 'hoax' (see Catrin Morgan)
- Of particular interest as it 1) is looking way into the future, 2) has a heavy use of illustration, 3) there is not a human in sight and 4) asks the reader to question its authenticity

## (8) Cross Disciplinary SF Methodology

- Framework of Speculative Fabulation is a new methodology that requires participation from their viewers in order to extract meaning.
- Described by Donna Haraway in 2016 as a "mode of attention, a theory of history and a practice of worlding"
- Coined this term in her 2016 book 'Staying with the Trouble'
- It is an 'interrogative form' that contains a question to the viewer.
- Question posed is of a 'moral' nature (hence fabulation, coming from 'fable')
- It also requires engagement / collaboration with the viewer. They have to work / take an active role with what they are presented with and make links / extract meaning for themselves to 'answer the question' within.
- It can be realized in any number of forms or outputs which often "defamiliarizes, queers perception, and disrupts habitual ways of knowing" (Sarah Truman)
- Speculative Fabulation can allow us to originate new theories by imagining new configurations of knowledge, facts and data.
- It can help us to think outside of the box by reconfiguring facts and accepted paths of knowledge and understanding
- This felt particularly relevant to my project.
- This methodology appealed to me as it a) required the viewer to be active rather then passive to make sense of the imagery / information they are being presented with b) act as a vehicle to convey a moral lesson and c) was not limited to conventional narrative formats – all very important to me in this project
- From this POV, we can view it as a collaboration between the work / artist that created it and the viewer.

## (9) Cyanotribes (v1)

- Set millions of years into the future, following a total collapse of our planets eco systems, a new life form is just beginning to emerge.
- MKII Cyanotribes are inspired by Cyanobacteria (blue-green algae) which appeared about 1.9 billion years ago and originated in a freshwater environment.
- They were the first living organism known to have produced oxygen (02) and paved the way for animal evolution.

- Ancestors of photosynthesis.
- My versions feed off of electricity created by the electro static storms ravaging the planet . A by product of the Anthropocene. NB: there is no sunlight anymore.
- Through mitosis (cell division), they are able to multiply in bursts creating huge numbers or 'tribes'.
- Each tribe has subtle variations.
- After working out how they multiply or reproduce' I have tried to imagine how they respond to their environment, communicate and start to evolve.
- Visualized / modelled various aspects to produce a taxonomical infographic that utilizes illustration
- Rooted in a science based visual language, not dissimilar to Dixon, Haeckal previously looked at.
- Attempted to present a convincing / plausible / believable / realistic concept to challenge viewer.
- Incorporated fictional details that pretend to be irrelevant to create 'Reality Effect' (Roland Barthes)
- Wanted to seduce the viewer to engage with the content and to draw attention to what the world could be like if we don't alter our course in regards to climate change = *A world without humans.*

## (10) The future in our hands

*Regarding the Arts*

- Lack of speculations in the arts regarding a post anthropocentric world without humans.
- Whether set in the short / medium / long term future, they mostly contain humans or 'posthumans' i.e. evolved variations of the human form
- *Why is this? Why are we not exploring the death of humanity more in the arts?*
- *"It is because we cannot relate to it. We cannot empathise with a future whereby humans have ceased to exist and no intelligent life is present. Therefore, it is meaningless." Dr Lucas Siorvanes*
- So for example, 'a purple amoeba like being flushed red at 21:27 Earth Time after a pebble like formation rolled down a hill.' Would be hard to relate to.
- But is it meaningless?
- Can anything be truly meaningless?
- Everything has a significance.
- What do you start think of when you stare at a grain of sand for long enough?
- What about Rothko's 'No. 37 (Red), 1956. May be 'abstract' but still hodls meaning
- More about how we look at things.
- Isn't that one of the roles of art? To help viewers make potential intangible connections with an artistic output in order to extract meaning.
- Inspire questions like – 'what is it's meaning / purpose / intent?' etc.

*Regarding the Sciences*

- In the science community, speculations have focused greatly on ways in which humans could become extinct. For example 'Circling the Drain' etc.
- For the first time ever, the way in which we engage and interact with our environment is prohibiting it from being able to maintain sustainable conditions for life to exist. Not just human life, but all forms of life. Carbon based life.
- Many species have come and gone, and we must accept huge collective responsibility for this. That doesn't seem to have bothered us an awful lot before but humans have previously not been in the cross hair before.
- Until now, humans have not really had to consider or face the idea of mass human extinction.
- This is prompting an existential shift in the way we are contemplating our future.
- In 2018, Todd May (professor of philosophy at Clemson University) writes in an opinion piece for the NY Times, about how this is 'stirring discussion in philosophical circles' regarding a much more pressing an urgent issue – **the death of humanity.**
- 'Would human extinction be good or bad?' 'What is the relevance of humanity?' and '*What would life be like without the presence of humans?*'
- Questions I'd like audiences to engage with and consider when they look at Cyanotribes.

*Conclusions drawn*

- Many speculations or predictions of the future look at 'short to medium' term as are more relevant. Also have more information and are able to make more accurate predictions.
- Predicting is still not guaranteed - until proved otherwise, the future is unwritten.
- A good example is weather forecasting. Especially in the UK!
- To look further into the future, 'firm evidence' becomes more shaky / less reliable to we need to acknowledge the validity of more cross disciplinary speculative approaches.
- Surely, looking at the evidence, is it logical to consider that a true post anthropocentric future may well indeed be devoid of all carbon based / human life?
- Cyanotribes borrows from basic Sci-Fi, Future Ecologies and Speculative Fabulation frameworks and methodologies.
- Informed by geology, ecology, biology and philosophy.
- Embedded is a moral question (fabulation) which asks audiences to engage with the question '*If we continue on our current trajectory, what comes next?*'
- My hope is that it would in turn prompt a reaction, behavioural change or cognitive shift in the viewers relationship with (in broader terms) the world around them and consider the proposal of the Anthropocene more seriously
- The proposal of the 'Anthropocene' should be taken as a warning.
- '*brought our own existence into question*' - if we do not change course, we may well have to face this philosophical and existential question quite seriously and quite soon.
- '*brought our own existence into question through our own actions*' - we are all (as global citizens) responsible for the health of the planet and complicit in the actions that have been taken against it.
- We need to be thinking about how all this will pan out.
- If we do not protect the earth, we may go extinct.