



Creative AI vs anthropocentrism:

how the introduction of AI
in the Creative Industries is
disrupting our anthropocentric
views of the world

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01.

Introduction

Anthropocentrism is the philosophical viewpoint which currently reigns Western's views on the world, positioning humans above everything else, including nature and other entities. However, due to the environmental crisis, this stance was already being questioned through the emergence of environmental ethics in the 70s (Boslaugh, 2016).

In the past decade, this argument has been accentuated by the latest developments in Artificial Intelligence, which have granted AI with capabilities to imitate human thought processes and logic, as well as creative patterns and outcomes. This has raised debates in the Creative Industries on this technology's creative power, consciousness and authorship.

This paper will engage with ongoing discussions on human's unique characteristics and AI's creative potential to showcase how AI's insertion in the creative field is shifting our anthropocentric stances on the world.

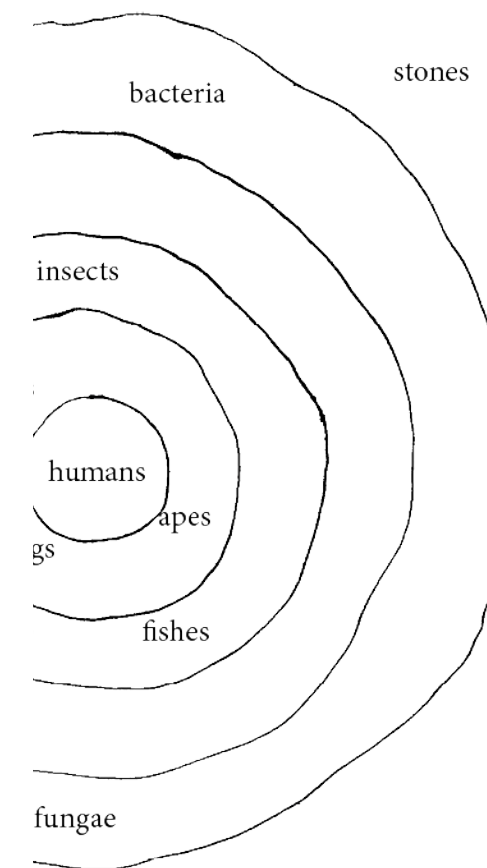


Fig. 1: A graphical representation of anthropocentrism.

02.

Anthropocentrism

Anthropocentrism can be defined as an attitude towards the world which positions the human species at the centre, considering it above other beings (Domanska, 2011). It is the overriding belief across Western culture, most likely having its origin in the Creation story told in the Judeo-Christian Bible, which considered humans to have been created in the image of God (Boslaugh, 2016). However, the anthropocentric views can also be found outside the Judeo-Christian theology, in writings such as Aristotle's and Kant's.

Anthropocentrism is believed to have led to capitalism and the production system we currently have (Shoreman-Ouimet & Kopnina, 2016).

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Posthumanism or anti-anthropocentrism is, therefore, an ethos which critiques or rejects the anthropocentric outlook (Domanska, 2011). This stance of thought emerged primarily from the climate crisis, seeking for a ecocentric attitude, where humans and non-humans are considered equal (Shoreman-Ouimet & Kopnina, 2016). Authors such as David Kidner, state the need to shift the focus from opposing anthropocentrism and ecocentrism to scrutinizing how both postures are being harmed by the 'industrocentric' political and ideological system (Kidner, 2014).

To the challenges anthropocentrism was facing due to the environmental crisis, in the last decade the argument has been accentuated as a result of technological advances.

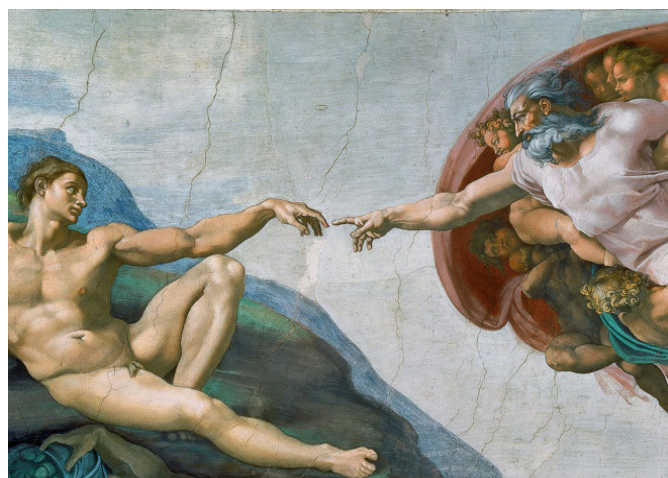


Fig. 2: *The Creation of Adam* by Michelangelo.

03.

Artificial Intelligence

The development of techniques which contribute to problem solve the challenges humans face is essential for our survival (Lorenz Sorgner, 2019). Engelbart discusses in his paper *Augmenting human intellect: a conceptual framework* our tendency to strive for the development of our capabilities through artifacts, language, methodology and training (Engelbart, 1962). It is not surprising, then, that in the latest developments in computing, we have reached technologies which surpass our kind in efficiency and processing speed.

Artificial Intelligence -AI in short- is one of them. Even though there currently isn't a correct definition of AI (Wang, 2019), it is usually defined as the ability a computer has to undertake human-like thought processes such as learning and self-correction (Kok et al., 2002). In the early days of AI's conceptualisation, scientists and technologists were inspired by human neuroscience to develop working models. By studying the human brain and the connections between neurons, scientists were able to create 'neuronal networks', which process information in several layers, imitating our brain's parallel processing system (Miller, 2019). In the last

decade, AI has had an exponential growth, expanding into most fields, including the Creative Industries (West and Burbano, 2020).

The development of a technology which showcases human-like thought patterns supposes a whole new outlook on the characteristics assigned to humans as 'unique', such as creativity, therefore becoming a topic of debate in the creative sector. The threat AI supposes is that non-humans have the power to create (de Vries, 2020).

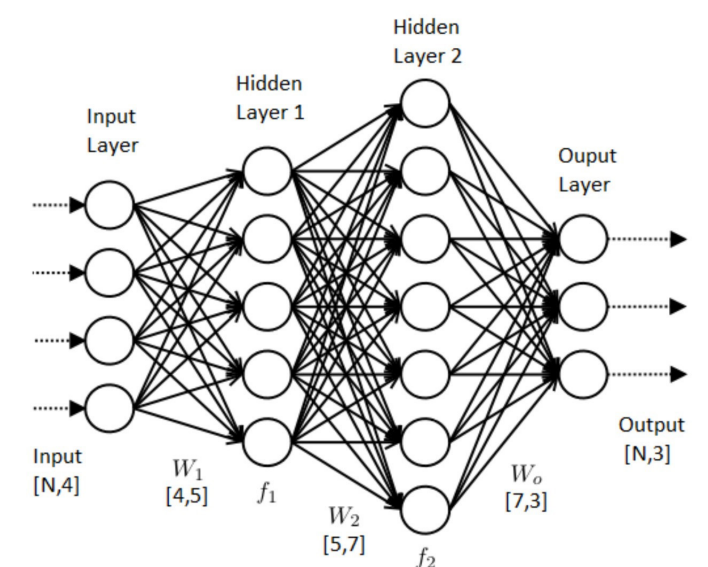


Fig. 3: Example of a neural network.

04.

On creativity

When analysing AI's insertion into the Creative Industries, the debates which challenge anthropocentrism inevitably revolve around AI's potential for true creativity. In order to analyse AI's creative capabilities, we firstly need to look at what creativity means.

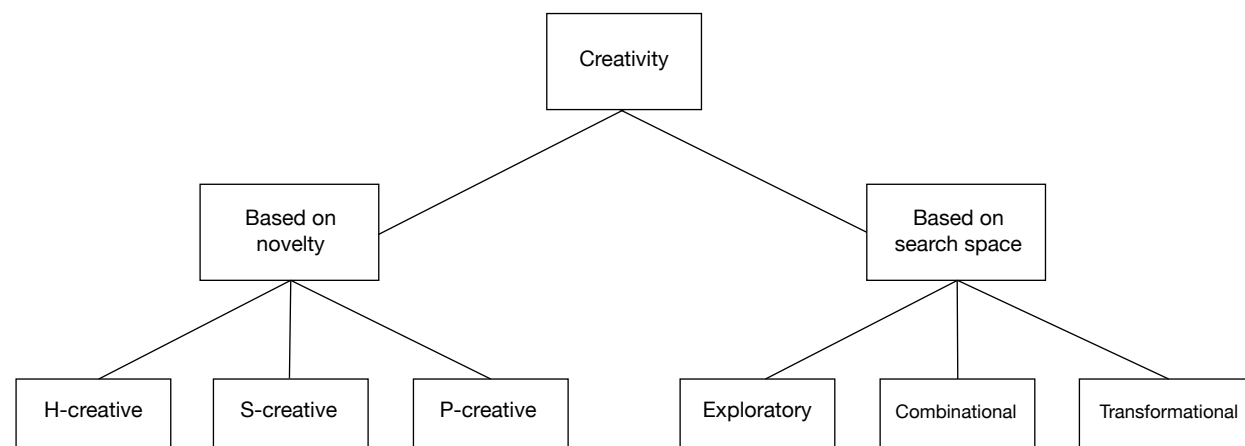


Fig. 3: Margaret Boden's creativity model.

Margaret Boden, a Professor of Cognitive Science in the University of Sussex, considers 'creativity' to be a 'feature of human intelligence' (Boden, 2009). In her acclaimed paper, *Computer Models of Creativity*, Boden defines creativity as the 'ability to generate novel and valuable ideas'. Novel ideas, she states, can be classified

into Psychologically creative -the idea is new to the individual who conceived it- and Historically creative - innovative in history overall (Boden, 2009). Furthermore, Boden claims creative outcomes evolve by combining several ideas, by exploring within the boundaries where the creations are being made, or by transforming these boundaries, the first being the one machines struggle the most with (Boden 2004). Other scholars such as Arthur I. Miller, Emeritus Professor of History and Philosophy of Science at UCL, classifies creativity into 'c-creativity' -the type of creativity in use for everyday activities- and 'C-creativity' -exceptional moments of creativity that lead to breakthrough creations (Miller, 2019). This stance is opposed by artist and academic Robert Pepperell, who considers creativity to be just thinking, being the acting upon this thinking the characteristic that differentiates creativity from other thinking (Pepperell, 2003).

Besides the definition and classification dispute, there is a disagreement on what sort of discussion the debate itself is. Boden argues AI's truly creative potential is a philosophical and societal debate (Boden, 2009). This claim is aligned with other scholars like the computer

scientist François Pachet, who considers the debate to be a societal one (Miller, 2019). However, not all authors agree. Miller declares there are now scientific evidence of AI's creative capability, rejecting the classification of the debate as merely a philosophical one (Miller, 2019).

Whilst it seems experts do not arrive to a final conjoint answer on AI's creative potential, most authors agree creative outcomes usually derive from patterns. They are, then, easily transformed into algorithms computers can understand and replicate (Pepperell 2003). If AI can mimic our creation process and outcomes, the question left to be analysed is if AI can develop the motivation which leads to the production of the creative work in the first place.

05.

On consciousness

The need to create in humans' derives from the development of self-awareness, that is, consciousness. Philosopher Henri Poincaré stated the process to a creative idea occurs in four stages; being the second one, unconscious thought, the one which leads to creativity (Poincaré, 1908). It is necessary, then, to evaluate Artificial Intelligence's potential to acquire consciousness.

Robert Pepperell states the difference between organisms and computers' relationship with their environments is that, the foremost, opposing to machines, are uncontained and need to be aware of what's around it in order to self-protect. However, he argues it is very likely computers might acquire sensorial information of their surroundings by, for instance, employing cameras, microphones and inter-connected programs (Pepperell, 2003). This argument is supported by Arthur I Miller, who considers it is possible to give computers awareness of others through sensors (Miller, 2019). It seems clear computers can access data from their surroundings, the question is if they are capable of processing them to the extent of developing awareness of their environment and, ultimately,

themselves, therefore acquiring consciousness.

But what does this term exactly mean? The knowledge of oneself as a continuous being, who lives in the past, present and future, that is, self-awareness (Singer, 2011). Miller discusses it is the fundamental concept which underlies all human experience and creativity, differentiating us from machines (Miller, 2019). At the present, there are only 'a few members of nine other species of animals which have consciousness, apart from humans' (Lorenz Sorgner, 2019).

One of the experiments commonly used in order to determine whether a being has self-awareness is the mirror test. It was conceived by Gordon Gallup Jr. in 1970. The mirror test consists of marking the to-be-studied individual with a dye and observing its reaction while looking at itself in a mirror, noticing if there is an acknowledgment of the mark being in its own body or not. At the present, only computers with sensors which have been programmed to get an understanding of their appearance are able to pass the test, as opposed to biological entities which have passed it, which do not need to be provided with this information beforehand. However, Lorenz

Sorgner points out most 2-year-old children can not pass the mirror test either, as well as stating the fact that this study favours species with eyesight as its most developed sense (Lorenz Sorgner, 2019). Whilst academics such as philosopher Peter Singer argue non-biological beings can not have consciousness, there are multiple scholars which state the possibility of computers developing consciousness in the near future. Miller points out they already even have some sort of self-awareness, since they are aware of the data they are analysing as well as mulling through it, which could be thought of as introspection (Miller, 2019).

Consciousness and memory -which allows the entity to be aware of itself as one continuous being- are deeply intertwined. Since computers already count with a somewhat similar to humans' memory, it is possible for them to develop some sense of self-awareness (Bryson, 2011).



Fig. 4: Chimpanzee observing itself in a mirror.

06.

Case studies

Degenerative Cultures

Cesar & Lois is an art collective which explores the relationship between humans, environments and technology, usually employing their work to relate society and technological developments to nature.

Degenerative Cultures is a project which aims to combine prehuman -microbiological- and posthuman -computer based- intelligences (Solomon & Baio, 2020). The installation consists of what Cesar & Lois called a 'bhiobrid', that is, a hybrid between biological and digital networks. An open book, on the topic of the human strive to position itself above nature, is displayed. In it, the microorganism *Physarum polycephalum* grows and expands across the pages, making them illegible. The growth data is collected and analysed by AI, which 'feeds a (de)generative algorithm based on cellular automata and NPL' (Solomon & Baio, 2020). Next, their bhiobrid searches the Internet to find texts on humans' sovereignty over nature to, firstly, show them on

The following case studies will serve to illustrate projects created with AI which have contributed to question human anthropocentric views.

a screen and, secondly, destroy them like the microorganism corrupts the book's paper.

The whole project is a critic to the Anthropocene and the implementation of human logic as the base for computational technologies. The collective suggests a shift from focusing on human neuroscience to developing AI to employing microorganisms intelligence, therefore aiming for an Ecosystem Artificial Intelligence (EAI). They suggest the use of EAI could suppose the end of the anthropocentric outlook, creating more inclusive technological systems which includes non-humans (Solomon & Baio, 2020). T

heir work and ethos as a whole showcase the need to reconsider our human-focused perspective on the world. Maybe this broadening of our attitude could even mean the inclusion of currently neglected people in our society.

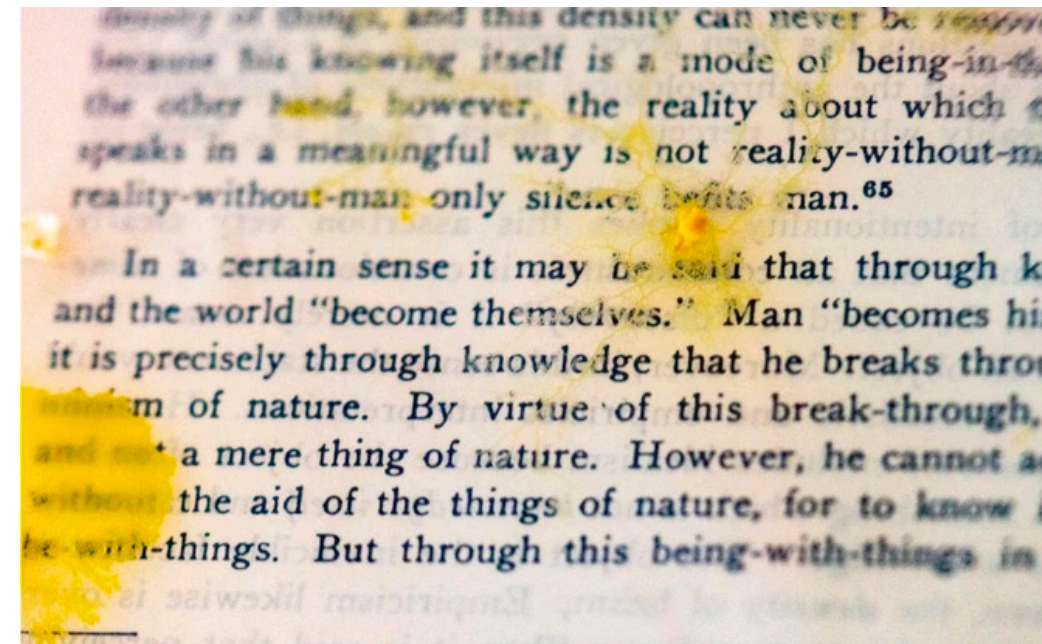


Fig. 5: *Physarum polycephalum* growing on the book.



Fig. 6: *Degenerative Cultures* full installation.

AICAN

AICAN - artificial intelligence creative adversarial network - is an AI art generated algorithm designed by Ahmed Elgammal and his research group at Rutgers University. AICAN can be thought of as an almost autonomous artist since it learns from existing artistic styles but it is able to develop its own innovative creations. This is due to the use of CANs, creative adversarial network, a type of algorithm which will get penalised if it creates artwork too similar to pre-existing one (Elgammal, 2019).

AICAN has been the first AI to have an art exhibition on its own in New York. Elgammal considers himself a collaborator to AICAN, rather than the creator, giving it full credit of the artwork it produces. However, he states, the fact that machines can create artwork does not mean artists will be replaced (Elgammal, 2019). This worry leads to a key debate in the creative field, is AI a tool or could it be considered an artist on its own merit?



Fig. 7: Faceless portrait of a scientist by AICAN.

Authors such as Dr Joanna Bryson considers AI to be an artifact like the previous technologies humans have developed, with its threats and promises. She suggests it is easier for our current ethical system to consider AI as a tool, instead of an artist itself (Bryson, 2011). This is an interesting point, since it implies referring to AI as an artist, which is already happening in AICAN's case, would mean a shift in our beliefs. Bryson's view of AI as a tool instead of an artist is also shared by scholar Bruno Caldas Vianna, who considers creative AI is the most interesting as a tool, rather than a 'replacement mechanic artist'(Caldas Vianna, 2020). Opposing to them, Arthur I. Miller argues, in the future, machines will be considered artists, musicians and creators on their own (Miller, 2019).

Even though studies have shown there is a current bias against artwork generated by AI, this technology has blurred our definition of an artist (Ragot et al., 2020).

07.

Conclusion

This paper has engaged with the concept of anthropocentrism, showcasing how the development of creative Artificial Intelligence and its insertion in the Creative Industries is questioning the core values which are meant to distinguish humans from others entities.

Examples of debates within the field on themes such as AI's creative potential, probability of developing consciousness and authorship have been engaged with, showcasing that, in a near future, it is feasible our machines will convey all of the above.

Thus, if the process, outcome and intent of human creative work can be mimicked by AI, it is clear the anthropocentric stance which positions humans in the centre of the world due to their logic, creative capacity and self-awareness will have to be reconsidered.

A shift on our perspective will be needed in order to keep up with the new challenges we face, including the ongoing environmental crisis and emerging intelligent technologies. This new outlook might even serve the human kind, humbling us and encouraging us to develop a more inclusive perspective on life.

08.

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