

Navigating the complex topic of circular and sustainable design ideology and practice

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Years ago, in primary school, I vividly remember a theatre company that presented a play and puppet show based on Hans Christian Andersen's fairy tale, "The Emperor and the Nightingale".

The story revolves around a local community's love for a nightingale and its enchanting song. Upon hearing of the bird's beautiful melodies, the Emperor sent his people to find it so he could hear its song. He was gifted a new mechanical singing bird made of fine metals and jewels, so the real nightingale was banished. Eventually, the artificial bird broke, and the Emperor fell ill. The natural nightingale returned to sing for him, thus restoring his health.

As a nature lover, I have always interpreted this story to mean that no matter how clever and beautiful human technological advancements may be, they can never replace nature. Without nature, we cannot thrive and should never take it for granted. I feel that this is happening to us now; we crave the new trend, novelty and impressive technological 'toys', and as a civilisation, we are out of touch with nature – not realising how much we rely on it.

Indeed, the purpose of this paper is not so much to show examples of 'good circular design practice' but to demonstrate the complexity of the contexts that designers work within. The paper is designed as an

introduction, to help designers think and perhaps work with a renewed sense of hope and inspiration to use their creative minds in new ways.

Since the Industrial Revolution, our relationship with possessions has been shaped by learned behaviours. We, as consumers, have allowed our possessions (or lack thereof) to define us, with the "haves" being perceived as more advanced than the "have nots."

Over the past two hundred years, economic growth has been concentrated in Western societies, resulting in rapid technological advances, ever-changing fashion trends, and the constant desire for new products. Manufacturers have capitalised on this desire by intentionally designing products with planned obsolescence. At the same time, advertisers ensure that we remain dissatisfied with our current possessions and crave new ones leading us further down a path of consumerism and away from our natural existence.

Economic growth has been centralised in Western societies for over two hundred years as the measure of balance in our societies – with more growth being synonymous with innovation. Since the 1950s, manufacturers have capitalised on this desire for growth; the 'new'; the subsequent development, through the building in obsolescence in the products we consume and recruiting advertisers to ensure that we are in a constant state of dissatisfaction in order to construct a desire for new. Indeed in the post war era, obsolescence was seen as contributing to a healthy society

*"Our whole economy is based on planned obsolescence... we make good products, we induce people to buy them, and then the next year, we deliberately introduce something that will make these products old-fashioned, out-of-date, and obsolete... it isn't organized waste, it is a sound contribution to the American economy"*¹

1 STEVENS, B., 1960, p. 66.

The fashion industry is built on speeding up obsolescence – making unattractive today what was



2 Hence the name fast fashion.

attractive yesterday² and the global south suffers from being the dumping ground for so much of the West's fashion waste:

3 Greenpeace (2022, April 22). Retrieved June 12, 2023, from: <<https://www.greenpeace.org/international/publication/53355/poisoned-gifts-report-fast-fashion-textile-waste-disguised-as-second-hand-clothes-exported-to-east-africa/>>.

"Cheap clothes often end up in dump sites, burnt, or washed into the sea, causing severe consequences. Only a small portion (10-30%) is resold locally Some are downcycled, while over half are exported for "reuse" in Africa and Eastern Europe".³

4 Rodgers, D. (2023, June 5).

Dazed Digital Author, Daniel Rodgers also reports on the vast textile waste mountain in Chile that can now be seen from space.⁴

E-waste from our obsolete tech is demonstrative of an unfair disposal economy, with those that consume the least importing toxic chemicals and materials from prosperous, wasteful economies. E-waste is not only environmentally and socially devastating but is also inefficient as our mountains of used technology could be used to mine for precious metals.

5 The concept of "wicked problems" was initially introduced by Horst Rittel, a design theorist and professor of design methodology at the Ulm School of Design in Germany.

We need ideological and systematic change – the type of change that is difficult to implement across nations and political methodologies and difficult for us to understand as a species. We are dealing with wicked problems.⁵ Based on the climate emergency, rapid biodiversity loss, human population growth, and pollution.

Wicked problems are complex issues that appear unsolvable due to their numerous interconnected factors. These problems defy straightforward solutions because the factors affecting them are uncertain, constantly changing, and challenging to define. Successfully addressing wicked problems necessitates a profound understanding of the stakeholders they affect and an innovative mindset, typically employed through design thinking.

Nevertheless, why are we letting life perish? Is it because we do not know how or are waiting for our political and industry leaders to do something? Why are we so slow to change in this regard when in other areas of life, such as the global response to the Covid Pandemic, we can work together, albeit in different ways, to solve urgent catastrophic events? It is perhaps due to the paralysis we experience when faced with the need to change but feeling overwhelmed by the catastrophic representation of the problems in the media and on social media, which stop us in our tracks. It is hard to be creative when feeling anxiety and grief at a time when we need creativity more than ever.

Read any professional forum, and it is clear that

people are very engaged – sharing and commenting on posts about circularity, but we appear to lack action. I want to explore this area and find out what factors hinder progress and what we need to ensure so that we can design sustainably and people can make informed choices.

The eco-anxiety caused by the multiple and overwhelming issues we face on our planet affects design in many ways. The world we have created as humans is not a good one; we have created mass extinction, habitat loss, overpopulation, climate change, growing scarcity of resources and food, poverty, pollution, unequal distribution of wealth, and, of course, unfair dominant economies based on a take, make linear waste model.

Surveys generally show serious public concern about climate change but low uptake of actions to address it. People's agency is limited by the scientific and political complexity of the climate crisis, the diversity of advocated responses, and the controversy about what is actually worth doing. As high-carbon lifestyles are 'locked in' by social and other influences, considerable personal agency is needed to behave contrary to norms such as eating meat, driving or flying. That includes developing knowledge and narratives that justify non-conforming choices and coping with their emotional and social implications.⁶

The Climate Psychology Alliance <<https://www.climatepsychologyalliance.org>> has been established due to the growing amount of ecological-related issues that therapists face worldwide related to mental health problems around loss, eco-grief, eco-anxiety, and catastrophism. Their work challenges the cultural norms of privilege and resentment and supports all of us in navigating change.

Ecological grief itself is paralysing, and, as in our personal lives – grief can stop us in our tracks as we try to make sense of what has happened and learn to live without our loved one. For designers, or at least designers with an ethical and moral mindset, creating new

⁶ Climate Psychology Alliance (n.d.). Handbook of Climate Psychology. Www. Climatepsychologyalliance.org. Retrieved May 15, 2023, from: <<https://www.climatepsychologyalliance.org/images/files/handbookofclimatepsychology.pdf>>.



products and or developing seasonal trends, knowing that our work is creating waste, releasing toxins, and contributing to biodiversity loss and climate change means that our very identity as problem solvers, trend-setters, aestheticians and 'world builders' is also lost – leading to a sense of paralysis. Indeed, we have become like the Emperor, out of touch with nature, out of love with our sparkly broken toys and feeling lost.

Now. Stop reading for a moment.

I want you to close your eyes and imagine you are in a beautiful forest; the light twinkles through the trees. You can hear the gentle hum of insects and animals rustling and calling; you can hear bird songs and the rustle of the wind in the leaves. You can see a stream and the burble of water over stone. Now imagine slowly the bird song stopping, the stream no longer flowing, and there is no rustle in the leaves. There is only... quiet.

How does that make you feel? You are probably experiencing eco-grief or eco-anxiety.

Looking at the increasing number of university courses and training courses available in a circular design and the rising number of social media groups in a circular design, it is clear that there is a desire to transition our practice into one that is circular, sustainable, and regenerative. This is good news, but there are many obstacles to overcome and a constantly changing landscape regarding legislation, greenwashing, and consumer behaviour.

Why is it that, even though we know how bad things are going to get very soon, and we know what needs to be done to prevent, or at least mitigate this, the entire global society still prevaricates and finds excuses not to make the changes we know we should? The answer is very simple. We won't act, because the choices we have to make fly in the face of everything we have been told we need to be and do, not only to survive, but to be happy and successful.⁷

Designing for Hope demonstrates foresight in terms of developing a different way of looking and producing

⁷ Hes, D., & Du Plessis, C., 2014, p. 23.

design in the age of anxiety. It shows that there is no way of fixing these issues in isolation. The authors explore troublesome colonialist thinking in what sustainability looks like and how there is no 'one utopian' vision. Written 9 years ago this book demonstrates (as does Jane Goodall's book *Hope*) that all is not yet lost and the design community can help develop new green shoots of courage and faith.

A regenerative project aims to set conditions in place which will ensure ongoing co-evolution and mutually beneficial integration of human and natural systems.⁸

8 Hes, D and Du Plessis C, 2014.

Regenerative design is an approach that aims to create sustainable and resilient systems to improve the environment and planetary (including human) well-being. This idea goes beyond sustainability by actively contributing to ecosystem regeneration instead of simply minimising harm. Inspired by natural systems, regenerative design practices, such as Biomimicry, integrate systems and forms that mimic those found in nature. Fundamental principles of regenerative design include designing to support our biosphere; embracing cyclic processes, minimising waste and continuously recycling resources; enhancing biodiversity by creating habitats for diverse species; supporting ecosystem services by understanding and leveraging natural functions like water filtration and carbon sequestration; and engaging stakeholders and communities to ensure social equity and long-term viability.

By adopting regenerative design, we can shift from a resource consumption and environmental degradation model to one that actively contributes to the health and vitality of our planet and communities. Simple examples of regenerative design include packaging with wildflower seeds for pollinators, green roofs on buildings, and vertical farming in cities that reduce food miles while also 'greening the city.'

The Royal Society of Arts, RSA (www.rsa.org) recently set up its Regenerative Futures Programme accompa-

9 Warden, J. (2021). *Regenerative Futures: From sustaining to thriving together.*



nied by a positioning paper written by the then Head of Regenerative Design, Josie Warden.⁹

Extraction Period (1760-1987)

Sustainable Period (1987-2020)

Regenerative Period (2020+).

By voicing human activity through symbiotic recognition of regenerating nature, we have a more positive framework to see the impact designers could have. Regenerative thinking means that we can act early, research, and experiment before a crisis happens rather than find a solution after the problem arises. However, one obstacle we currently have to consider are the twin problems of resource extraction and waste production.

Earth Overshoot Day marks the date when humanity's demand for ecological resources and services in any given year exceeds what the Earth can regenerate in that year. We eat up ecological resources and then create mountains of waste – which has been unsustainable for many decades.

The Global Footprint Network (GFN) are an international research organisation providing policymakers, educators, governments, and others in power with tools that can help us design a new human economic system that operates within the Earth's ecological limits.

United Nations Earth Charter¹⁰ and Sustainable Development Goals, GFN offers clear communication strategies to help us understand our wicked dilemma). One initiative is Earth Overshoot Day.

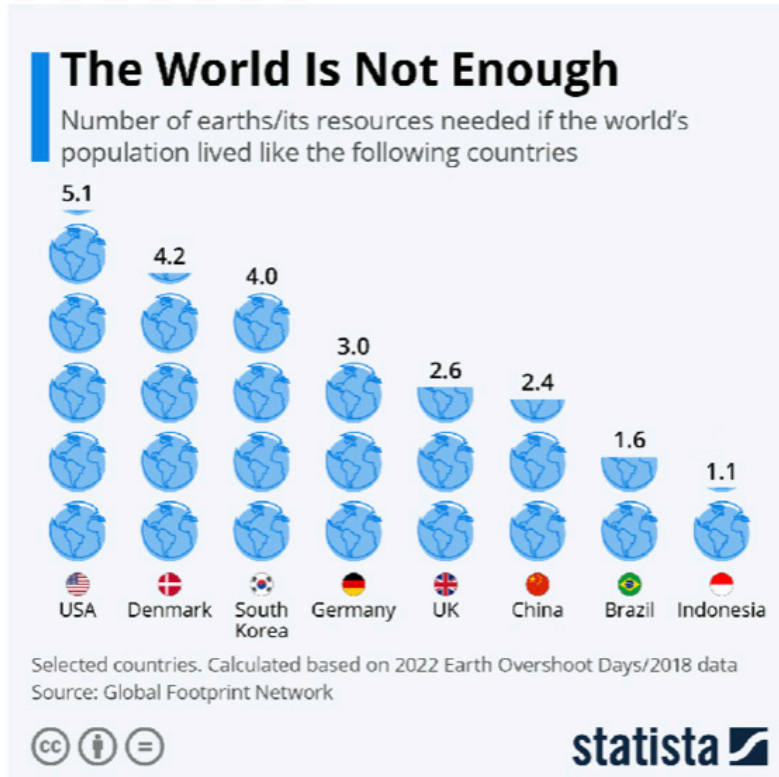
To determine the date of Earth Overshoot Day for each year, Global Footprint Network calculates the number of days of that year that Earth's biocapacity suffices to provide for humanity's Ecological Footprint. The remainder of the year corresponds to a global overshoot. Earth Overshoot Day is computed by dividing the planet's biocapacity (the number of ecological resources Earth can generate that year) by humanity's Ecological Footprint (humanity's demand for that year), multiplying by 365, the number of days in a year.¹¹

10 The United Nations Earth Charter: <<https://earthcharter.org>> and Sustainable Development Goals: <<https://sdgs.un.org/goals>> .

11 <<https://www.overshoot-day.org>> (20th June 2023).

This year, 2023, GFN calculate that we will use up the entire Earth's resources by 2nd August. This calculation shows that we are using 1.7 earths per year across the planet. Which is an issue as we only have one. This chart from Statista, however, shows even more evidence on a country-by-country basis on just how much plundering we are doing as a nation.

The paper explores the importance of regenerative design showing the need for an ambitious programme of change management. Warden and the RSA have communicated a timeline of how we got to this stage:



The Ellen MacArthur Foundation challenges us to consider waste and pollution as design flaws through a circular design approach. As a society, we tend to kick the problem 'downstream' – such as stores convincing



12 Many experiments are happening in design and sustainability in response to the situation we find ourselves in. However, these experiments – especially with larger organisations in fashion and footwear can at times be used to virtue signal or conversely to actually promote more consumption. Modern business methods suggest we adopt lean processes to put forward an idea and a product and pivot and change depending on the audience. In some ways, this ensures that products are designed with minimum waste as they give the consumer what they want. What can and does happen, though, is that lean start-up principles in design mean that businesses promote their goods before they are fully ready. Fine in most cases, but for sustainable practice, we need to test and explore if our experimentation will cause harm.

consumers to send back clothing that they no longer want to be recycled rather than thinking ‘upstream’ and designing out waste at the ideas stage. A circular approach means that clothing needs to be designed not just for use but to have its post-use considered and to design clothing to be long lasting (important too in rental models of circularity) and/or made to be remade. Circular design involves rethinking how products, manufacturing¹² and materials are designed, produced, and used. It focuses on creating products that are durable, repairable, and recyclable. Instead of relying on non-renewable or toxic resources, the circular design promotes using renewable resources and recycling or repurposing waste materials. A list of resources for designers is included at the end of this article.

In our current economy, we take materials from the Earth, make products from them, and eventually throw them away as waste – the process is linear. In a circular economy, by contrast, we stop the production of waste in the first place; ellenmacarthurfoundation.org

Reducing waste through pattern cutting or rescuing materials before they become waste is a crucial principle of circularity, and an example of this is such as the R Collective in Hong Kong <https://thercollective.com> whose mission is to end fashion waste by rescuing, reusing, and recycling textile waste into clothing. Unlike fast fashion stores, they work collaboratively with partners to use waste in their collections in the upstream manner mentioned earlier.

Fashion and textile designers should not only think about their garment and its wasteful footprint but also need to review how it is tagged, labelled shipped, and packaged, ensuring that plastic use is eliminated.

For consumers of design, it is challenging to navigate between genuine and misleading claims for green products. Sometimes, we cannot distinguish between a marketing ploy and an actual 'green intervention and to this end the EU are proposing new laws around green-washing statements and practices.

Can consumers change behaviour? Maybe. And first steps could be to question our relationship with owning lots of things and change our 'acquisitive' mindset to see goods as a service – to hire a washing machine, a wedding dress, or a printer and see it the same way we use other utilities – like heating or lighting. We can then reduce our reliance on the number of possessions and think instead of the quality, emotional meaning, buy for durability and fewer possessions. By doing so, we disrupt the dominant global neo-liberal Capitalist model of 'growth, growth, growth'¹³. Liz Truss promises 'growth, growth and growth' in protest-hit speech (The Guardian).

Growth is an outmoded concept based on extraction era ideologies that is killing us. Growth no longer serves us and instead we need to look deeper at no growth or degrowth as per Kate Raworth's assertion in Doughnut Economics:

For over 70 years economics has been fixated on GDP, or national output as its primary measure of progress. That fixation has been used to justify extreme inequalities of income and wealth coupled with unprecedented destruction of the living world. For the twenty-first century a far bigger goal is needed: meeting the human rights of every person within the means of our planet... The challenge now is to create economies – local to global – that help bring all of humanity into the Doughnut's¹⁴ safe space. Instead of pursuing ever-increasing GDP it is time to discover how to thrive in balance.¹⁵

An organisation that is helping to pursue that balance is the Or Foundation.

Working at the intersection of environmental justice, education, and fashion development, our mission is to identify and manifest alternatives to the dominant model of fashion – alternatives that bring forth ecological prosperity, as opposed to destruction, and that inspire citizens to form a relationship with fashion that extends beyond their role as a consumer.¹⁶

13 (Liz Truss, Conservative Party UK Conference October 2022 As reported by Mason, R. The Guardian Newspaper UK 5/10/22).
MASON, R.
(2022, October 5).

14 The Doughnut offers a vision of what it means for humanity to thrive in the 21st century - and Doughnut Economics explores the mindset and ways of thinking needed to get us there.

15 Raworth, K. (2022). Doughnut Economics, Seven Ways to Think Like a 21st Century Economist (1st ed., p. 28). Penguin.

16 The Or Foundation Mission Statement <<https://theor.org>>.



By learning from organisations such as the OR Foundation, by designing regeneratively, learning from nature through biomimicry, avoiding greenwashing and exploring durability and circular practices.

Visual communication has a key role to play in helping to map our path through the confusion of information, disinformation and urgency. One example of this is the Climate Stripes, attributed to University of Reading's professor Ed Hawkins: No words. No numbers. No graphs. Just a series of vertical-coloured bars, showing the progressive heating of our planet in a single, striking image.

They show clearly and vividly how global average temperatures have risen over nearly two centuries.¹⁷

Designers in any discipline therefore have the power to shift away from trend-based consumption and sales based design to one that helps to sustain us, helps us to understand and ask the right questions as well as helping us to access the beauty around us. In conclusion, I want to share this quote from entrepreneur and broadcaster Seth Godin: Humans are unique in their ability to willingly change.

We can change our attitude, our appearance, and our skillset. But only when we want to. The hard part, then, isn't changing it. It's the wanting it.¹⁸

17 <www.universityofreading.ac.uk> (nd)

18 Seth Godin (Seth's Blog 2019).

About Marie Brennan

Marie Brennan is a designer and academic. She has had a broad career in creativity, academia and design. She is a fellow of the Royal Society of Arts, the Institute of Designers in Ireland and a member of the Institute for Innovation and Knowledge Exchange. She works as a consultant and academic and most recently as a training designer and creative enterprise lecturer for the National College of Art and Design in Dublin, Ireland. She is an advisor to the British Council Creative Economy Group.

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Royal Society of Arts (rsa) <<https://www.thersa.org/events/2023/01/creative-responses-to-climate-change>>

Global Footprint Network <<https://www.footprintnetwork.org>>

Circle Economy <<https://www.circle-economy.com>>

Centre for Circular Design (inventors of the acclaimed tool for circularity – The Ten <<https://www.circulardesign.org.uk>>

Institut Polynésien de Biomimétisme <<https://www.biomimetisme-polynesie.org/en/home>> (working on new design for coral reef nurseries while also developing a global approach to creative design education using a Polynesian methodology)