

The Circular Economy and the Sunk Cost Fallacy - Can it evolve

Or will the baby be thrown out with the bath water?

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I declare that this **Critical Cultures Research Project** is all my own work and that all sources have been fully acknowledged.

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Table of contents

Introduction	4
Context	5
Case Study	12
Argument	13
Conclusion	25
Bibliography	27

List of Figures

Fig. 1 Korsunova. A. 2022 Photograph	7
Fig.2 Klavans R, Boyack KW, 2017, Graph	10
Fig.3 Klavans R, Boyack KW, 2017, Graph	11
Fig. 4 Weetman C. 2021 Graph	14
Fig. 5 O'Donnell C. 2021 Graph	19

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Introduction

In this essay I will be breaking down the circular economy and investigating corporate attempts at greenwashing their actions by implementing unsustainable circular methodologies. The term 'circular economy' initially was coined in seek of founding a principal to function under, to transform the means of production and reparation going forward, this essay refers to case studies that highlight the ways in which the methodologies have been disregarded structurally but instead they have only been adopted to greenlight further corporate expansion. Through studying the impulse that humans have to share, stemming from childhood through to old age and also looking into how the impulse to share has affected different societies in the past, I question whether or not circular economy was ever fit for purpose. The idea of a circular economy could be understood as naive or overly

simplistic, but an in-depth understanding of the science, histories and practicalities involved in its manifestation asks for more careful consideration.

Going on to explain other theories involved with this discussion, doubts of human rationality are raised with regards to illogical tendencies to follow through with actions even after they have stopped making sense. The essay attempts to dissolve the false pretences about sharing in society in order to begin with an honest position. Furthermore some of the case studies regarding how the circular economy is no longer fit for purpose highlight that however instinctual sharing seems to be, it can easily develop into cause for bad as opposed to good. In an exploratory study of human nature, different functions of society and corporate injustice this paper addresses the evolution of the once hopeful concept of circularity and discusses its potential of moving forward.

Context

The phrase "circular economy" has linguistic as well as descriptive connotations. It is a linear economy's linguistic opposite. A linear economy is one in which natural resources are used for production and then wasted. By removing natural capital from the environment (via mining or unsustainable harvesting) and by lowering the value of natural capital due to pollution from garbage, such waste creation worsens the ecosystem in two different ways. The concept of the cycle is related to a second, implied, descriptive sense of the word circular. The biogeochemical cycles and the notion of product recycling are two cycles that are particularly significant in this context. A circular economy is one that has no overall negative impact on the environment; instead, it repairs any harm caused during the acquisition of resources while ensuring that minimal waste is produced during both the

production process and the product's lifetime. “Recycling has been a significant part of sustainable practice for many years, and it is fundamental to the Circular Economy.” (Murray, Skene & Haynes, 2015).

Nature and circularity are inherently linked and always have been. It was a necessity that required early societies to be circular and this is still true in some areas of the world that have developed less industrially. The most sustainable version of the circular economy, if not all economic models, is the aforementioned circular by necessity as there is no other incentive other than adapting to having insufficient resources. Beyond these circumstances the Swiss author Walter R. Stahel wrote in his book *The Circular Economy: A User's Guide* that “the objective of the circular economy is to maintain the values and manage stock of assets from natural, cultural, human and manufactured to financial stocks.” (Stahel, 2019) The optimisation of an object's application rather than its production has always been a core mission of the circular economy as well as the preservation of their use value of stocks, constituents, and molecules at their highest utilisation and worth levels. To make it a viable option these stocks must be profitably managed to compete with other economic models. “Today, various forms of circularity, circular society and circular economy exist in parallel, intertwined and in competition with the linear industrial economy.” (Stahel, 2019)

A study regarding necessity-driven circular economy is showcased by Angelina Korsunova in *Necessity-driven circular economy in low-income contexts: How informal sector practices retain value for circularity*. In favelas in Brazil, plastic bags were observed being repurposed as storage bins to keep products off the ground. Lack of space and few furnishings are major problems in many slum homes. Rarely do you see a chest of drawers or shelves. Instead, documents, personal hygiene supplies, and other things are hanging on the wall in plastic

bags. In some Brazilian elementary schools, students are specifically taught how to be resourceful. “For example, children are taught how to repurpose PET bottles to serve as plant pots, helping to prevent the spread of dengue fever by reducing insects’ access to still water.” (Korsunova et al., 2022)



Fig. 1 Korsunova. A. 2022 Photograph

Circular societies founded on necessity operate using non-monetary sharing which is a fundamental aspect of their community. The principle of “no sharing without caring” was

coined by Graeber, the principle still pertains to sharing societies that lack a definitive owner, global commons like biodiversity, oceans and atmosphere epitomise this. Sharing without caring can result in exploitation and mistreatment when an owner is not present and can ultimately go unpunished. “Humans help one another, and once we treat something as a gift, we turn into something less than human: Up here we say that by gifts one makes slaves and by whips one makes dogs. Gift here does not mean something given freely, not mutual aid that we can ordinarily expect human beings to provide to one another. To thank someone suggests that he or she might not have acted that way, and that therefore the choice to act this way creates an obligation, a sense of debt-and hence, inferiority.” (Graeber & Piketty, 2021) Social shaming in smaller, tight communities can exclude those in the firing line from being able to participate in the active system or ostracise them from the community altogether.

If sharing is morally required, such as when a close relative is in need, an affluent individual may not feel inclined to share despite all the reasons why it is right and desirable to do so. Furthermore, even while helping others may not yield much in return, kinship and other such social agreements may not always come with absolute assurances. “The received social-moral obligations prescribe an economic course, and the publicity of life, increasing the risk of evoking jealousy, hostility, and future economic penalty, tends to keep people on course.” (Sahlins, 1972) On the other hand to sharing being intertwined with morality there are those whose natural instinct is of selfless care for others, separating their actions from moral requirements.

Everything from food and resources to information and knowledge has been distributed and passed along throughout our history. What was it that made humans behave this way? An optimistic opinion would be that these are instinctual acts that quickly evolved into common

knowledge. “Altruistic urges and behaviours are an important part of the glue that binds families and social groups together, helping them to cooperate and thrive. Individuals who go out of their way to aid others often receive something in return—whether it’s an intangible reward, such as admiration and respect, or material support at a later time. Altruistic impulses and the reciprocation of kind deeds help ensure all members of a tight-knit group have backup when they need it” (www.psychologytoday.com, 2022). Despite the fact that humans have a seemingly natural instinct to share, most societies have evolved into a capitalist economic structure which has lost sight of previous and arguably more healthy ways of community function.

The act of sharing is quickly learned and perhaps embedded in human nature, even young children express and feel good about cooperative behaviour. “In a study in Leipzig, three-year-old children were presented with a task in which they had to pull a board with an unequal amount of sweets on either end. If there were five jellybeans on one side of the board and only one on the other side, the children would divide the treats so that everyone got the same amount. These sharing behaviours were especially strong if the children had worked together before” (Hamann et al. 2011). Beyond the rudimentary acts of sharing expressed by children and our ancestors, what is the motivation of modern day altruistic movements and how can we harness them?

Research and the discovery of life and nature’s key concepts are rooted in altruism and remain an intrinsic part of the human subconscious. “These research activities, along with those aimed at reducing illness, protecting the weak, providing world-wide educational opportunities, sustaining the earth as our home, reflecting on the meaning of life and living in a fair and just civilised state, are rooted in altruism” (Klavans & Boyack, 2017). A map of

altruistic objectives is visualised in the graph below (Fig. 1). Be that as it may, it is possible to view altruistic tendencies from an alternate perspective, similarly to how we are going to discuss the trajectory of the circular economy, as it is important to note considering that sharing is rooted in circularity. The contrasting opinion of altruism on an economic level is considered by David Graeber in *The first 5000 years of debt* where he argues it to be an act of profit-seeking. “In human economies, it does not appear to have occurred to anyone that any act could be either purely selfish or purely altruistic. An act of absolute selfless giving can only also be absolutely antisocial hence, in a way, inhuman. It is merely the mirror image of an act of theft or even murder.”(Graeber & Piketty, 2021)

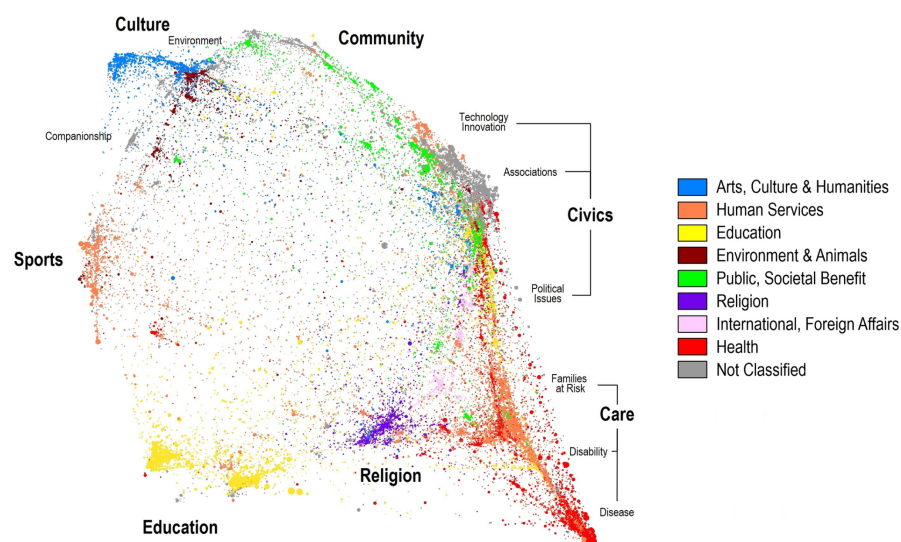


Fig.2 Klavans R, Boyack KW, 2017, Graph

The circular economy and the sharing economy are linked in several ways. It can be understood that both the circular economy and the sharing economy aim to reduce waste and optimise the use of resources by encouraging the sharing and re-use of goods and services, The circular economy focuses on the entire lifecycle of a product, from its design and production, to its use and eventual re-use or recycling. In contrast, the sharing economy

focuses on the use phase of a product, by allowing individuals or businesses to share or rent out goods and services for example community laundromats. Both the circular economy and the sharing economy promote more sustainable consumption patterns by reducing the need for new resources to be extracted and processed. By sharing goods and services, rather than buying them new, the need for production and transportation is reduced, which in turn reduces environmental impacts. The linkage between both concepts can be visualised in the graph below (Fig. 2)

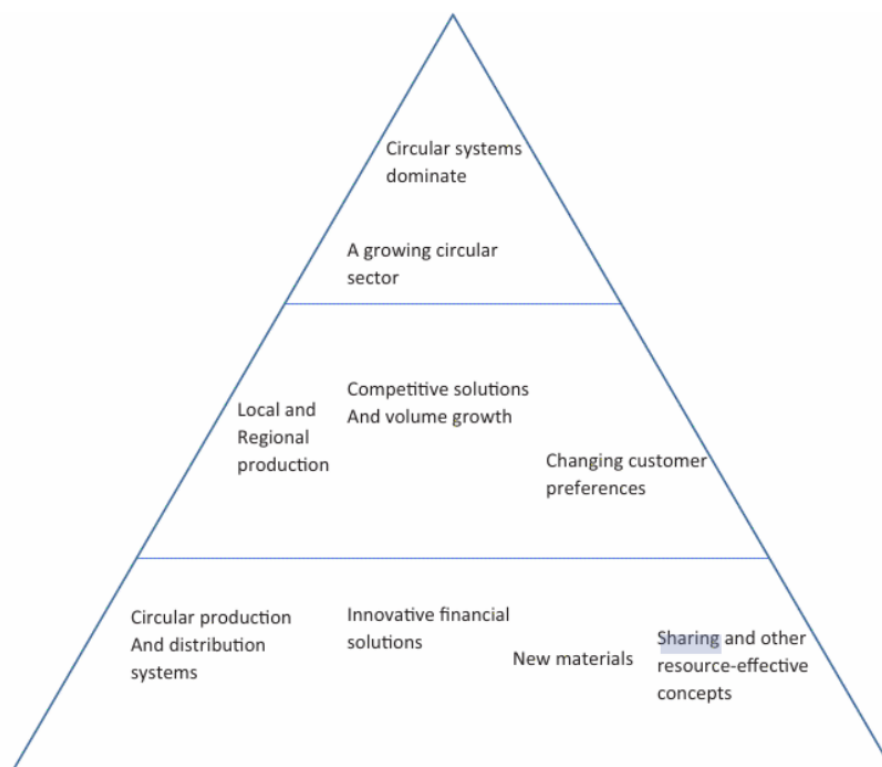


Fig.3 Klavans R, Boyack KW, 2017, Graph

The sharing economy can also help to create a circular economy by making it easier for products and materials to be reused. For example, the sharing of durable goods such as power tools or party equipment can prolong the life of these items and reduce the need for new ones

to be produced. Overall, the sharing economy can be seen as a key enabler of the circular economy, by providing the necessary infrastructure, platforms and communities to make it easy for people to share goods and services, and therefore reducing waste and the need for new resources. In their purest form, the aforementioned concepts should be successful in increasing sustainability but this paper will go on to explain how in some cases circular methods are in fact un-sustainable.

Case Study

While the concepts of the circular and sharing economies will look very different from country to country, for the sake of this argument I am going to be focussing on Developed countries in the western world. Perhaps sharing culture is more prominent in places such as Germany, more specifically Leipzig because there has been digital sharing platforms created in order to connect communities. These digital sharing platforms separate sub groups for each district of the city. Within this sharing group you can acquire anything from leftover food to furnishing for an entire apartment. Leipzig is located in east Germany where the socialist spirit of the GDR times still partially remains. The general consensus there, is one of minor contempt towards capitalist systems such as ones operating in the United States. Many young people in Leipzig are extremely politically active as Germany's history has insisted them to be, issues advocated for include free speech and welfare. There is a strong and active culture of political demonstrations. Among the array of communal activities frequently participated in is the garden allotment culture, also known as “schrebergarten”. Here people share allotments with friends as part of a bigger community with many neighbours. It is ironic how successful and harmonious Leipzig is in this regard having once partaken in a strict political regime where neighbours were met with extreme suspicion. Perhaps this investment in

community subtly plants the seeds of sharing into the populus as your fellow citizen is not an abstract concept.

Leipzig has evolved since those times to retain its socialist spirit while operating within a capitalist economic structure. Despite what has happened in some cases in the past it's not that communism has a natural inclination to devolve into hierarchy. Rather, it's that one must always be on the lookout for it. Contrarily, changing relationships based on the presumption of communistic sharing to relationships based on equal exchange is notoriously difficult and frequently outright impossible. The same can be said for the circular economy, but in this case it is exploitative capitalism in the place of hierarchy that must be looked out for. If capitalistic motivations are allowed to creep into circularity, the functionality of sustainability with the circular economy will be in jeopardy.

Argument

Having outlined the intricacies of the debate I will be discussing the unfortunate downwards trajectory that the theories of circularity have taken. Is the circular economy actually improving sustainability or is it being hijacked by companies in the pursuit of growth? It's becoming increasingly apparent that the Circular economy, in its current state, is no longer a

suitable solution to guide our future to where it needs to be. The amount of enterprises and strategists opting for unsustainable circular methods are increasing and in turn creating a pool of false solutions. “A reliable way to make people believe in falsehoods is frequent repetition, because familiarity is not easily distinguished from truth.” (Kahneman, 2011)

Although these systems may technically be circular, the way that they have been implemented, as will be stated, are causing more problems than the existing linear economic model. For instance, studies on the ride-sharing services Uber and Lyft show that the overall vehicle miles travelled (VMT) in seven major cities (Boston, Chicago, Los Angeles, New York, the San Francisco Bay Area, Seattle, and Washington, D.C.) have increased due to their service usage. “49 to 61 percent of ride-sharing trips ‘would not have been made at all’ (Clewlow, 2017) if the services didn't exist, or would have been made by walking, bicycling, or on public transit.” (Edelstein, 2017)

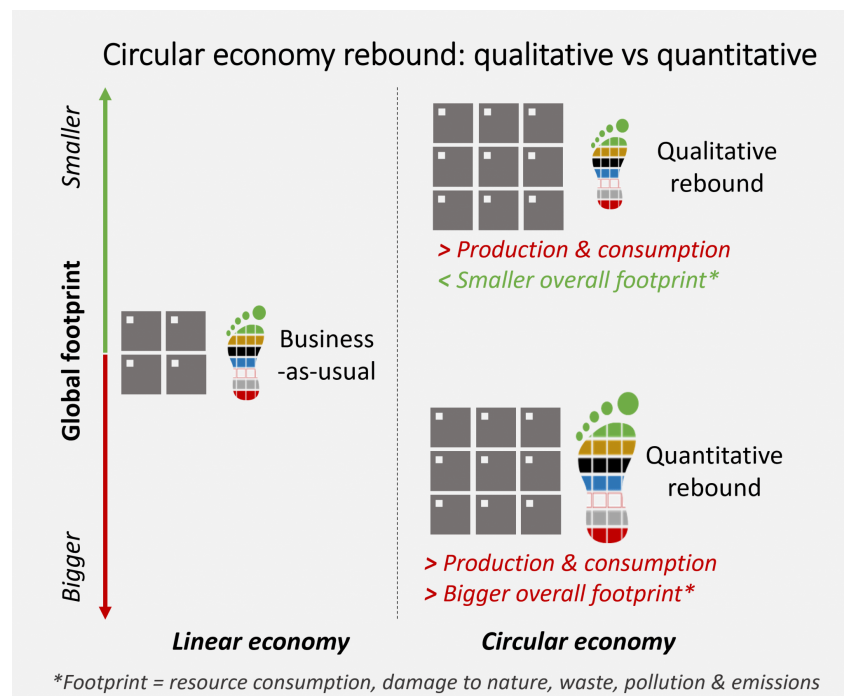


Fig. 4 Weetman C. 2021 Graph

The affluent investors behind these companies can afford to undercut rival companies as well as public transport while operating on an unsecure, unfair gig economy (independent contractors, online platform workers e.g. deliveroo, just eat) model. Transport isn't the only industry where the circular economy is being misguided by enormous conglomerate funding. Dr Alice Mah exposes how petrochemical and plastic corporations are taking technical control over what the circular economy looks like in practice in her book *Plastic Unlimited: How Corporations Are Fuelling the Ecological Crisis and What We Can Do About It*. In an interview (Seekings, 2022) Mah goes on to talk about the hierarchy within the circular economy and how recycling is ranked low and reduction is prioritised.

Mah states that "It can be a 'guilt eraser' for the consumer and the industry. By reframing the crisis as a recycling issue, the industry can keep producing five hundred billion plastic bottles a year". Contamination is a problem in conventional recycling, so the plastic industry claims that the solution is chemical recycling innovation and that they are the leading innovator. In doing so they receive mass funding and are technically seen as circular. "It is about continuing to produce as much as it likes but changing the inputs and the technologies." says Mah.

Another example of where the circular solution to a problem is causing more harm than the pre existing linear model is that in order for clothing brands to get their green certificate they are using a huge amount of Recycled polyester otherwise called RPET. Soft drink and water bottles make up most if not all of the source of the RPET which could be continuously recycled into more bottles if they were kept within the same industry. It is extremely unlikely that they will be recycled at their end of life within the textile industry as around one percent of textiles are recycled globally. Polyester garments, particularly fleeces, are shedding microplastics when we wear them and wash them and two and a half times more microfibers

are created from recycled polyester than virgin polyester. There is a huge deficit of products being designed that will have a long lifespan without built in planned obsolescence. As well as this not many companies are designing for disassembly or allowing for their products to be easily fixed or enhanced. This extra step in the chain gives the illusion of a circular method being adopted but in fact the only notable outcome is that the idea of circularity is being tarnished and there is now a lack of consideration and guilt involved in investing in two of the biggest contributors to the damage being done to the environment, single-use-plastics and the fashion industry.

Circular insight expert Catherin Weetman, at Rethink Global, has interviewed hundreds of entrepreneurs & business owners, social enterprises, and leading thinkers working within the circular economy. Catherine believes that *“we are at a critical turning point. We need to evolve a circular economy into a framework that supports the future we want, the future we need, and the future we know is possible. If we don’t, we’re letting all our hard work, our innovations, our struggles, go to waste.”* (Weetman, 2022). This essay moves on to question whether or not we can change course with having identified loopholes that could have undermined the foundations of the circular economy or whether the concept as a whole has to be relinquished. Here lies the problem of the sunk cost fallacy and the human tendency to follow through with an endeavour despite the fact that it may no longer make any rational sense to do so. We are so heavily influenced by all the effort, time and resources that we have already invested into an idea that we absolutely hate the notion of abandonment or change of our direction. The sunk cost fallacy is deeply embedded into our thinking and it can influence major decisions across companies, including things like allocation of resources.

Daniel Kahneman is a psychologist who was awarded the 2002 Nobel Memorial Prize in Economic Sciences for his work on decision-making and the psychology of judgement, as well as behavioural economics. Kahneman discusses the sunk cost fallacy on an economical level in his book “Thinking, Fast and Slow” among other psychological behaviours. For example Kahneman imagines a company that has invested \$50 million on a project that is currently behind schedule with a less favourable forecast than at the initial planning stage. To give the project a chance requires further investment of another \$60 million. What will the company do when an alternative proposal to invest the same amount in a new project likely to bring higher returns? “All too often a company afflicted by sunk costs drives into the blizzard, throwing good money after bad rather than accepting the humiliation of closing the account of a costly failure.” (Kahneman, 2011)

In regards to the current state of the Circular economy it is apparent that the sunk cost fallacy is in full effect on behalf of those that are pushing the model towards what was once deemed the right direction for our future, not the exploitative capitalist companies that are hijacking its optimistic prophecy. This is a pivotal point in time for the benevolent side of the circular movement and it depends on how and if it can evolve it in the right direction. The concern behind this would be that to continue supporting the circular economy in its current form would mean the support of meaningless action which in turn is to be part of the problem.

How is it possible that exploitative capitalism has managed to infiltrate and impersonate the circular economy on such a high level? This can partially be explained by another concept highlighted by Kahneman in “Thinking, fast and slow” known as WYSIATI (What You See Is All There Is). This idea was formed by the fact that even with limited evidence our brains can form conclusions confidently. People can be confident in opinions that are based on very

little evidence and take the cognitively undemanding path by listening to those on “their team” until they are only exposed to information that verifies their beliefs. “WYSIATI facilitates the achievement of coherence and of the cognitive ease that causes us to accept a statement as true. It explains why we can think fast, and how we are able to make sense of partial information in a complex world. Much of the time, the coherent story we put together is close enough to reality to support reasonable action.” (Kahneman, 2011)

So now to take the concept behind *what you see is all there is* and apply it to the circular economy along with the pervasive corporations that were discussed earlier such as ride-sharing, textiles and plastic industry and the problem becomes clear. We can see that these companies are advertising their circularity and abiding by the conditions that legitimise their participation despite whether what they are contributing is sustainable or not. People that maintain an understanding of the philosophy behind the circular economy see that these companies are operating on a circular level and believe that it is a sustainable alternative.”I would argue that the circular economy is being diluted to the point of being ineffective. Businesses and consultants are just using it to focus on growth.” (Weetman, 2022)

Each town, city, country, and continent has its own distinct garbage generation and disposal trends, issues, and procedures. But each one also has an impact on the others through changes in policy and cultural evolution, creating a complicated worldwide web of trash interactions. Too frequently, we aim for high diversion rates like those in Germany and Denmark, which combine recycling, composting, and occasionally waste to energy. In reality, the countries that produce the least trash are the ones that operate the best in terms of a fully circular economy. The once customary techniques of repair and reuse that reduced trash in the

modern world's disposable culture have all but vanished and have been replaced by government-run collection procedures.

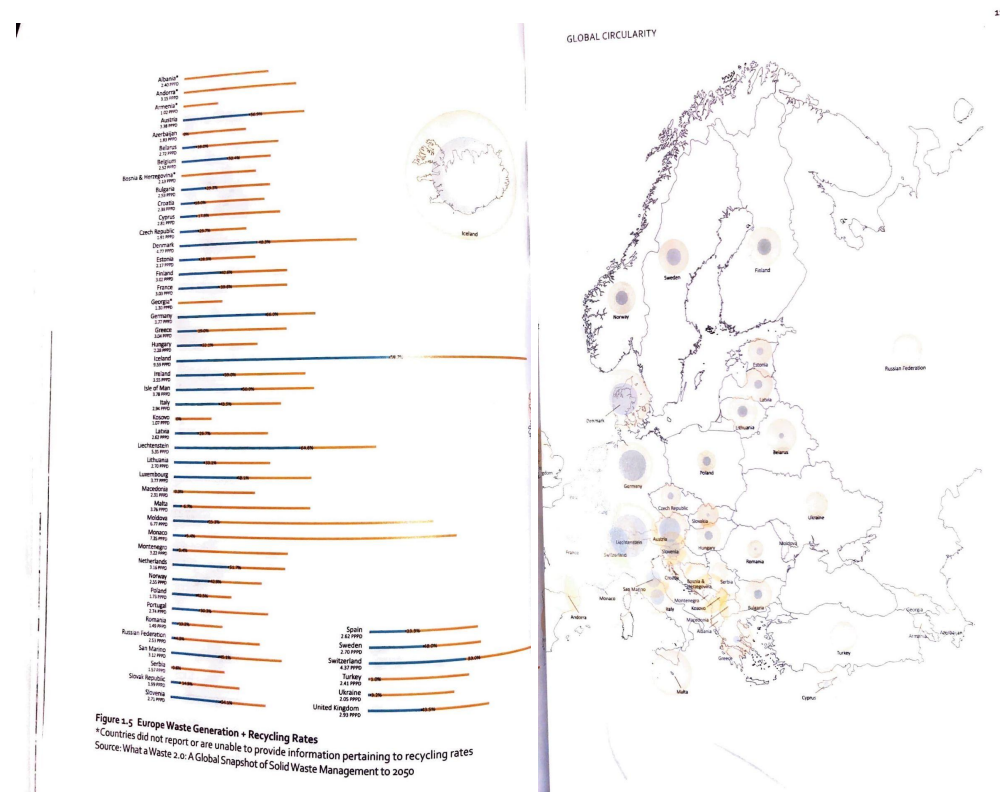


Fig. 5 O'Donnell C. 2021 Graph

Overall trash creation rises as nations expand, urbanise, and adopt elements of the throwaway culture. The "top highest performing countries" must therefore be regarded with caution because they frequently produce extremely high levels of garbage per person per day (PPPD). For instance, Iceland ranks among the "best performers" and has one of the greatest recycling rates in the world, but it still produces 4.35 kg of garbage per person each day. "Its recycling rate is almost twice as much as the U.S. and over three times as much as Sweden. However, it produces more waste to begin with than many of the other top performers." (O'Donnell & Pranger, 2021)

An analysis conducted by Julian Kirchherr, Denise Reike and Marko Hekkert of Innovation Studies Group at Copernicus Institute of Sustainable Development in Utrecht University confirm that the Circular Economies link to development of sustainability is weak. Based on their research they revealed that most studies view the circular economy as a pathway to economic affluence in contrast to the prior scholastic rhetoric which argued that environmental objectives were its top priority. As would be expected those engaged with the economic practice ranked the acquisition of affluence above where environmental concerns were once expected. They went on to verify that social considerations are neglected by circular economic understandings.

There is uncertainty surrounding the claim that the circular economies' main enablers are novel business models and only one in five studies claim that the consumer is another enabler. This is consistent with earlier academic material that identifies the customer as a research deficit for the circular economy community. Their paper does not propose to abandon the circular economy despite the prominent conceptual confusion, as there is substantial momentum following its course which insinuates that it might be able to go beyond existing efforts at sustainable development. “However, a distinction is needed between ideal and subverted circular economy definitions. If subverted definitions start dominating, circular economy implementation will only result in incremental improvements at best, with the circular economy concept then not delivering on its promise of fundamental change. The circular economy concept may then ultimately end up as just another buzzword in the sustainable development discourse.” (Kirchherr et al., 2017)

To enable customers to utilise products for longer periods of time and businesses to recover valuable resources and eliminate waste at the end of use, design methodologies must embrace

circular ideas. For instance, the programme for cradle-to-cradle (design to be truly recycled imitating nature's cycle) certified products offers precise rules for assessing material health, reutilization, renewable energy, carbon management, water stewardship, and social justice. To properly support conservation of resources and product use extension activities like repair, refurbishing, and remanufacturing, a major shift in design principles is needed.

Such design concepts have typically been taken into account for high-value goods for years, though perhaps not always under the circular phrase umbrella. In actuality, many pieces of machinery and equipment operate on the concepts of modular upgradability and serviceability. Circular and disassembly factors are rarely taken into account when designing mass-produced, retail-distributed products. However, designers and innovation teams at top companies are starting to take notice of such goods due to growing extended producer responsibility rules. Nevertheless, the economics of the current market do not yet favour circular designs for the majority of those products. “What's needed is a systemic shift across the product value spectrum.” (Lacy et al., 2021)

Participating in resource recovery might turn into a lucrative economic opportunity if product designs have been modified to allow for their disassembly and reuse. As an illustration, the Scandinavian industrial company Moelven provides interior solutions that include construction walls that can be disassembled and reassembled for a different design without the need for new materials. The utilisation of secondary materials presents a considerable sourcing opportunity given the rising worldwide amount of waste streams. Think about the following: Packaging accounts for 40% of the plastics manufactured; it is only used once and then wasted. Alternative sourcing channels may start to make sense from a strategic

standpoint if such waste streams can be converted into secondary resources. “Sony’s electronics products & solutions segment, for instance, uses up to 99% of recycled plastics in its electronics. An advantage of incorporating these features into design is that plastics can easily be used multiple times which, in turn, has the added benefit of lowering the carbon dioxide emissions in Sony’s TV production by 80%.” (Lacy et al., 2021)

On the topic of designing for repair, upgradability and disassembly there is a pragmatic correlation between the sunk cost fallacy and item longevity. If more products on the market were designed to be easily repaired and disassembled by the user it could encourage a positive-circular societal shift regarding our relationship to consumerism and how we treat objects. If users were encouraged to maintain their items for as long as possible through allowing easy access to spare components and detailed repair guides with simple instructions on how to complete the task yourself. The time and process dedicated to alteration of an object would hopefully act under the same principles as the sunk cost fallacy and reduce the willingness to abandon and replace. For those who do not have time or are unable to complete the task themselves, a system for heavily available repair centres that cater to even the most niche item, must be set in place. Albeit this is already the case for those operating under the circular by necessity model, but this action would be geared towards normalising this behaviour throughout all circular models regardless of social class or income level.

The ramifications of planned obsolescence must be removed from business models and deprogrammed from society's conscience as there have been huge strategic measurements implemented since the post-war era to influence the product and the mental attitude of the consumer evoking a throwaway spirit. A product may be subpar if obsolescence is purposefully incorporated into it to reduce the lifespan of the item. The hurried construction

could be a result of the pressure of releasing a new model every year. It could result from cutting corners on the product itself to cover marketing and sales expenses. “The point to remember, however, is that all these forms of shoddiness aid in producing obsolescence in the product, and the obsolescence puts the owner into the market for a replacement. If the debasement of the product is not obvious to the owner, or if he has low expectations, there is no serious complication in selling him a replacement.” (Packard, 1960)

One of the problems with implementing a circular economy is that it can be difficult to align with social and communal considerations. This is because the circular economy often focuses on technical solutions to resource management, rather than on the social and economic systems that influence resource use. For example, a circular economy may rely on advanced recycling technologies, but it may not address the root causes of waste, such as overconsumption and unequal distribution of resources. Additionally, the circular economy can be difficult to implement in communities where there is limited access to resources and infrastructure, or where there are social and economic disparities that make it harder for people to participate in the circular economy. Therefore, a more holistic approach that takes into account social and communal considerations is needed to make the circular economy more sustainable.

The security, camaraderie, and survival advantages that have made communal life so alluring for millennia are still valid and essential in the twenty-first century. Whether it's protection from isolation or a weak economy, solidarity in the company of dependable friends who share similar values, or survival from the dangers of global warming, pollution, and the depletion of energy sources, communal living in a variety of forms is relevant in today's society. Social interactions and economic interdependence are closely related. Relationships of support that

are frequently connected with community, member well-being, and the health of a local culture and economy are all intertwined. Experts on the communal idea in the book *The communal idea of the 21st century* discuss that “Community is important, in as much as socialism is concerned, to the extent that it offers an alternative to the market economy, arena politics, and mass society. It is hard to think of a modern mode of production which is more inefficient and wasteful than the prevailing corporate capitalism.” (Ben-Rafael, 2013)

Our consuming habits and demand are quickly approaching a tipping point where they exceed the planet's capacity for safe regeneration, let alone prosperity. Over the past ten years, we have been trapped in an unsustainable system of production and consumption. Although technical development has made it possible to use natural resources more effectively, we still use and waste more than we produce. A move to a circular economy offers businesses a significant opportunity to innovate and open up new markets while simultaneously minimising negative environmental effects and enhancing socioeconomic outcomes. The circular economy can generate enormous financial and economic value for businesses and society when strategically implemented. We refer to this as the circular advantage.

This transition is by no means simple or easy. Although the core idea behind circularity is straightforward, turning all trash into something useful disrupting our current linear methods of production and consumption is a formidable challenge. There are amazing examples of private and public organisations of all types and sizes successfully managing the change, as is shown throughout this book. But in order to seize this opportunity, we must scale circular economy initiatives throughout every sector and region. Depending on the current waste streams, the anticipated demand for natural resources, customer preferences, and the maturity

of the industry, each sector will depart from its linear systems in a unique way. As varied and wide-ranging as businesses themselves, the path to becoming a circular organisation offers limitless opportunities for creativity and reinvention. “Therefore, an integrated approach that considers Operations, Products & Services, Culture & Organization, and Ecosystems is needed to pivot wisely from linear to circular” (Lacy et al., 2021)

Conclusion

Having demonstrated the slow descent that the circular economy has taken from once having had environmental interests above all to now being an excuse for monetary gain in the case of some, It could now be argued that it is vital to highlight the failures and flaws in the movement while simultaneously moving forward with, investing hope in and trusting that there is good that can be done by functioning with the basic principal ideas that the theory was based on. Learning from the movements history and the present day betrayals of the ideation conjure the human instinct to care. Factually, there has been a great deal of change between our current day analysis of the concepts at hand and how they began as “*scholastic rhetoric*” but this fact does not have to be viewed in a negative light. Despite the over-optimistic and thereby unrealistic nature of some of the implemented models, the core understanding of the movement is unarguably based on logic and fact, and in the interest of the majority functioning in our society.

The sunk-cost fallacy has undoubtedly trapped many into the feeling that it would be too big a failure and too pessimistic to abandon the models of reuse and repurpose that have been set in motion, as these motions seem to be for good, and potentially the best a corporation can do. H&M having entirely recycled clothing collections reads as though they have met the

need for urgent and drastic change for the environment halfway, and that it is better than nothing. As stated in the paper these cycles encourage and allow for the damaging production cycles to continue to operate without outrage, so by corporations acknowledging and ‘changing’ more harm is being done and hope for change diminishes with the lack of awareness we are seeing around the world.

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