Introduction to the Special Issue on the Contested realities of the Circular Economy

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In the past decade the 'circular economy' (CE) has established itself as an influential model for economic development, with the Chinese central and regional governments (Su *et al.* 2013) and the European Union (European Commission 2018) being early propagators and policy champions. The ambition of the model is to create 'circular' material flows that break with the current 'linear' economic rationale of take, make and dispose, creating business value for its participants (Lacy and Rutqvist 2015; Esposito *et al.* 2018). Inspired, among other influences, by the cradle-to-cradle design methodology (McDonough and Braungart 2009), the CE is to create waste-free technical loops that resemble biological loops and make waste disappear at the same time as being restorative and regenerative by design. This ambition has attracted the open support from a wide range of economic and political actors: inter-governmental bodies (OECD), influential forums (World Economic Forum), advocacy associations (World Business Council for Sustainable Development - WBCSD, the Ellen MacArthur Foundation, Circle Economy), leading corporations and consulting firms (e.g., Accenture, Cisco, Dell, H&M, Hewlett Packard, Intel, IKEA, McKinsey, Renault, and Levy Strauss), cities (Amsterdam, Glasgow) and regions (Region Skåne in Southern Sweden). The CE comes with a promise that circular relationships among markets, customers and natural resources (Lacy and Rutqvist 2015) have a unique capacity to combine economic growth with sustainability (Ghisellini, Cialani, and Ulgiati 2016).

We acknowledge that the CE is not one 'thing', but, rather, could be seen as an 'empty signifier' (Valenzuela and Böhm 2017), which allows for a whole range of interpretations and approaches to be bundled together under the term 'circular economy'. Indeed, the CE is said to have 114 definitions (Kirchherr *et al.* 2017), which implies that academics and practitioners do not necessarily agree on precisely what the CE entails and how it should be implemented. In short, the CE is a contested concept (Korhonen *et al.* 2018), which is not surprising as essentially all approaches that try to square the circle of business-society-nature relations can be questioned and challenged from a variety of different

viewpoints (McManus 1996; Carew and Mitchell 2008). Despite this 'emptiness' of the CE, allowing for open interpretation and even free, creative associations between a range of economic, social and environmental factors (Murray *et al.* 2017), influential economic and political actors have been allowed to hegemonize the CE discourse. The result has been the narrowing down of latent possibilities in the systems thinking that underpins the CE.

At heart, the CE is a radical concept, as it is historically embedded in a critique of established systems relations that have produced the 'unsustainability' that characterizes contemporary, linear forms of global capitalism (Hobson 2016). At its best, CE thinking takes a whole-systems approach, aiming to redesign economic and social relations to not just reduce the impact humanity has on the environment but to radically rebalance human-nature relations (Boehnert 2015). Rather than simply being a closing of material loops, the CE could be a way to bring planetary boundary thinking (Steffen *et al.* 2015) together with the UN's Sustainable Development Goals (SDGs) agenda into economic thinking. Imagine, for example, a 'Doughnut economics' as Raworth (2017) puts it, that entails a radical redesign of how the economy is run, not to minimize social and environmental harms but to create a new, circular model of socio-ecological relations that are essentially regenerative and redistributive.

Yet, most CE approaches seem to want to devise a *perpetuum mobile* of waste and material flows (Haas *et al.* 2015), which is not particularly new (Reike *et al.* 2018), as 'resource efficiency' approaches have been dominating business thinking since at least the 1970s when the 'limits to growth' debate first arose (Meadows 1972) amidst the global oil crises and emerging sustainability concerns. Most CE conceptions tend to rest on an over-simplistic understanding of material flows (Linder and Williander 2017) and waste (Velis 2018). Claiming to model the CE on nature, it could be argued that CE advocates fundamentally misunderstand the role that waste plays in our habitat (Skene 2018). While the CE tries to get rid of waste and engender a system that is super-efficient, the natural ecosystem is a complex system that continues to grow, and, as it increases in size, more energy is used, and more waste is produced (*ibid*.). Being so focused on – even obsessed with – optimal resource efficiency, CE advocates often overlook the conditions for the wider effectiveness of the system (Webster 2013). What they often do not appreciate is that organizing a system so that it can be managed in the most efficient way possible, does not often lead to the generation of resilience (Fath *et al.* 2019).

Here, we can see that, despite the nearly revolutionary rhetoric of its advocates, the CE, in its hegemonic variety, is a child of the less than radical neo-classic economic theory and ecological modernization paradigm, introducing, among other things, a moral condemnation of waste and the local to global circuits that characterize it (Gregson *et al.* 2015). This implies that CE thinking "amounts to incremental rather than radical transformations, a 'weak' rather than a 'strong' form of sustainability" (Hobson and Lynch 2016, p. 18). Yet, even within its paradigm of resource efficiency, circular business models have proven to be quite inefficient at actually organizing circular material flows (Stål and Corvellec 2018). Hence, it remains to be seen whether they can actually deliver environmental value (Manninen *et al.* 2018). The CE's ability to positively contribute to environmental growth – that is, the net-positive growing of natural capital and ecosystems – is often implied rather than shown or proven. It is no surprise that, in times of today's increasing concern over the climate and ecological emergency faced on this planet, some corporations propagating CE approaches can be accused of trying to use the CE to preempt more stringent environmental policies or making them amenable to their corporate interest (Corvellec and Stål 2019).

In addition to viewing the environment essentially as a resource base, the CE and circular business model tend to overlook the social dimension of sustainability (Inigo and Blok 2019), such as green skills (Bozkurt and Stowell 2016) as well as work and labour (Stahel 2019), in particular in the informal waste sector (Luthra 2019; Zapata Campos and Zapata 2014). It often lacks the institutional dimensions to address the current material and energy throughput in the economy (Moreau *et al.* 2017), and gives a prominent place to rationales of economic value creation (Ranta *et al.* 2018). Turning the CE into a pathway for a transition to sustainability would require aligning it with the degrowth agenda, as Schröder *et al.* (2019) argue, which is quite the contrary to how the European Commission (2018) frames it as a mechanism for economic growth. More radical regional agendas for the CE have been outlined (Salvia *et al.* 2018), but these tend to be overlooked.

Another forgotten dimension of the circular economy are its historical precedents. Hitler's Germany – in its times of 'total war' – was also obsessed with recycling and waste valorization (Berg 2015). As the Nazis' over-commitment on two or more fronts became obvious, the regime increasingly became depended on a complete mobilization of all waste available in the Reich to continue to churn out tanks, war planes and ships. East Germany and many other Eastern European countries operating under socialist state command also had elaborate waste recycling and resource efficiency regimes (Gille 2007;

Möller 2014). These countries were often resource-poor, and they did not have the financial resource nor the political will to buy oil, gas and other resources on the world market. Particularly in the dying decade of the German Democratic Republic, in the 1980s, the term *Kreislaufökonomie* (circular economy) was increasingly used to mobilize all economic, political and societal actors to rescue the dying, unproductive economy. Circular economy thinking seems to be, hence, applied in times of acute crisis, during periods of extreme scarcity when survival is at stake.

Incorporating social and historical analyses into CE perspectives allows us to appreciate the broader politico-economic and cultural contexts of the CE. In our view, this is an urgent task, given the many claims that are made in its name today. The risk is that the CE simply results in the depoliticization of waste, that is, in the negation of the present role that waste plays in dynamics of power and contestation/critique, and the overlooking of the symbolic and material history of conflict and struggle that has preceded and will follow the generation of waste. Worse, the CE could become a covert way to normalize and protect the material and energy intensive modes of production and consumption that underpin today's intensive waste production (O'Brien 1999; Valenzuela and Böhm 2017; Savini 2019). The public seems to be increasingly concerned about climate change, ocean plastics and ecological denigration, exemplified by the fact that many European citizens now state that 'the environment' and 'climate change' are amongst the top concerns in national polls (European Commission 2019). The same can be said for many other cultures around the world. Citizens have hence a right to critically scrutinize their national governments and their policies, amongst which the circular economy has featured highly.

This special issue of *Culture and Organization* adds to these critical engagements with the CE and circular business models. We invited contributions that question the CE beyond the often repeated, but largely a-historical, a-practical, and a-theoretical, claims that the CE will help organizations solve the material, energy, economic, and social problems of the 21st century. The four contributions of this special issue engage with and unpick different aspects of the CE.

The first two propose a critical reading of CE advocacies. Thomas Völker, Zora Kovacic, and Roger Strand draw on the concept of sociotechnical imaginaries to show how the CE has served to assemble and stabilize an imaginary of circularity as mean to invent a future that combines innovation, sustainability and growth. Their analysis of policy documents and interviews with policy officers of the European Commission allow them to show how the CE, a policy-in-the-making, tie together in a seducing way

combined promises of business opportunity, responsible policies, and environmental protection. Völker, Kovacic, and Strand's article is an original thought piece that challenges CE and reminds us to pay attention to whose and "which worlds and futures are created as the initial promises of circularity materialize through a set of indicators for measuring progress towards a circular economy" [NOTE TO THE COPY EDITOR: PLEASE INSERT PAGE NUMBER FOR THE QUOTE ONCE THIS IS PROCESSED FOR PUBLICATION).

Jakob Zwiers, Melanie Jaeger-Erben and Florian Hofmann also depart from texts that praise the CE, but with a broader sample of originators that include consulting firms and economic think tanks. Drawing on the notion of circular literacy, they show that visions of a CE are narrowly focused on the economy, with a patent lack of a reflection on the political and socio-cultural dimensions that a transition to circularity would entail. The authors offer a creative and interdisciplinary approach to problematize CE as a discourse. Their circular literacy framework, which includes types of knowledge, dimensions and indicators as well as an analysis of recent publications, shows how it can act as a useful platform for widening knowledge-based approaches to the CE.

The other two contributions propose a critical analysis of existing efforts to develop circular-economic policy and practices. Analyzing the case of Brussels (Belgium), which has recently integrated the CE into its socio-economic strategy, Wojciech Keblowski, Deborah Lambert and David Bassens adopt an urban political economy of scale to show how this integration is biased toward technology-driven industrial change. Bracketing broader socio-political interests, the circular governance of Brussels is an "urban sustainability fix" that conceals the contradictions, tensions, and limitation of a circular policies and practices. Their conclusion is that the official CE narrative "obfuscates the continuity of capitalist interests, offering merely a discursive transformation of relations underpinning the production and consumption of food and transport services." The authors' in-depth critique enriches the CE debates to show how bottom-up activism can challenge business and industrial practices – moving beyond the mainstream narratives of market efficiencies to reveal an array of heterogenous activities and actors.

Agata Dembek, finally, analyses the introduction of reusable takeout containers in New York to answer to the problem of an overuse of single-use containers in plastic. Drawing on action nets theory, her ethnographic fieldwork unties the practical difficulties of combining legal consideration of hygiene, practical considerations of convenience, and economic considerations of profitability to develop viable

circular initiatives. She also shows how the non-participation of some actors in action nets – in her case the food containers' manufacturers – represents a major obstacle to circular transition. This raises the issue of which scale this transition is to be imagined, connecting thereby to the question of imaginaries, visions and scales that the other authors in the special issue address. In addition, this article complements the other three articles, as it provides insights into the drivers and barriers attached to CE implementation in everyday practices.

The CE is not one thing, but a multiplicity. In this spirit, this special issue takes us from political imaginations at the European Union to the everyday food practices in restaurants, and from the emotional rhetoric of consultants to the urban metabolism of Belgium's capital city. Providing a variety of ways to fill the above-mentioned 'emptiness' of CE discourse, the articles assembled in this special issue provide an introduction to the multiplicity of theoretical, political and practical issues raised by the CE. There are, of course, many more angles that we could have addressed, to mention a few: the diffusion of an idea that was first adopted by the People's Republic of China to the European Union and, then, further to Latin America and Africa; the transition of an idea from an ecological economics critique (Pearce 1990) to a guide for global corporation strategy (Ellen MacArthur Foundation 2015); the role that technology and innovation are supposed to play in a transition toward a CE (Laser 2020); the understanding, or lack thereof, of the social, material, and political dimensions of discards practices (Liboiron 2018); the scaling of the CE as regional solution in an era of global supply chains; or, its impact on social inclusion and exclusion.

If the CE is to become the guiding principle for the economic and environmental strategies of public and private organizations, one can legitimately ask what kind of answers it is able to provide to the manifold of ecological, economic and other social challenges in the Anthropocene, such as global warming, ecosystems destruction, global social inequalities, degradation and precarity of work, mental health problems, the coexistence of hunger and obesity, diminution of biodiversity, plastic littering of the oceans, fresh water shortage, limits of planetary and social boundaries, etc. What is the CE able to do, not able to do, pretending to do, or ignoring in the face of these challenges? Is a CE more inclusive and just than a linear one? Would work and ecosystems be more and better valued in such an economy, or is this circularity mainly there to squeeze even more out of people and nature? And how is circular value to be calculated, measured and accounted for? How would we actually know that our economies and

societies are becoming more circular? The list of questions that remain unanswered by current CE thinking is long.

The circle is an enticing metaphor. A circle symbolizes "totality, wholeness, original perfection, the Self, the infinite, eternity, timelessness, all cyclic movement, [and] God" (Protas 2001 [1997], p. 1). It evokes a modernist variant (Hobson 2016) of the myth of an eternal return (Eliade 1989 [1949]). Yet, how much is this symbol for timeless geometric and metaphysic perfection able to address the smelly and obscure messiness of waste (Corvellec 2019)? For adepts of the CE, it is enough to build perfect circles to take one's material responsibility – the term adept suggesting here that the CE is often more a matter of faith than of facts. But how one is to build these circles across space and time remains an untold story. Equally, it remains obscure how circles are compatible with the economic growth that the CE is supposed to bring with it. Do not get us wrong. CE thinking has immense potential, in our view. However, its 'emptiness' needs to be problematized, and the way this empty space is filled needs to be questioned and interrogated. We hope this special issue is able – in whatever minor and humble way – to contribute to such a project.

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