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# Towards a from below, multi-epistemic and collaborative circular economy

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The Open Laboratory of Innovation and Circular Economy (LabIEC) is a center focused on researching innovation and the circular economy from a multi-epistemic and collaborative perspective, integrating actors from both the academic sphere and work-organization collective experiences. Its goal is to democratize the R&D agenda in this field based on a dialogue of knowledge and collaborative design, and, additionally, to promote experimentation on and implementation of re-applicable analyses, models, and experiences with a clear orientation towards social inclusion and sustainable development. Based in the National University of Quilmes, its work takes place under the aegis of the Institute of Science and Technology Studies (IESCT) and the Argentine Network for Social Inclusion Technologies (RedTISA), as well as through partnerships with grassroots organizations, technological centers and research teams from national and foreign universities.

This position paper was prepared by Sebastián Carenzo, Lucas Becerra, and Marcelo Loto, based on the wealth of experiences and reflections which gave rise to the LabIEC project.

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# Why work at the crossroads of innovation and circular economy?

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Circular Economy provides a clear opportunity to reshape the techno-cognitive matrix which organizes the current linear model of extraction, production, consumption and disposal of goods and services. But at the same time, a must question is: It is an opportunity for what and for whom?

The framework of circular economy (CE) offers a fresh perspective on the management of resources under a capitalist economy, rethinking the dominant production and consumption models based on linear perspectives (extraction-processing-disposal). Instead, it puts forward the idea of an economy based on repurposing existing material and energy flows as a way to minimize both the extraction of virgin natural resources and the effects of a disposal culture, which is the consequence of the practice of hyper-stimulating consumption for consumption's sake. To that end, it proposes addressing the problem's causes, rather than just denouncing its effects, in particular, through an approach which entails generating production, marketing, and consumption processes which are restorative and regenerative by design.

In this sense, CE has managed for large corporations to include in their agendas certain topics which were deemed taboo based on the very nature of their business. Thus, global leaders in apparel began to rethink the fast-fashion model they promoted widely; large car manufacturers are projecting a market which in the short term will prioritize the temporary use of the property of the good, and the same will happen with other big corporations. This is not something to be dismissed, considering the weight of these actors in their respective value chains, but also in the global orientation of business models.







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Indeed, this powerful narrative has made it possible to rekindle optimism relative to the possibility of harmonizing economic growth and socio-environmental sustainability, even in the midst of the boom of financial capitalism and the global Anthropocene crisis. That is, it has set for itself an ambitious goal against a background which is somber to say the least. In part, there are good reasons to see the objective of reconciling growth and sustainability as an oxymoron.

We need only consider the fate of the combined concept of “sustainable development”, whose growing prominence in the discursive mainstream ended up diluting its power as a transformative practice. However, we also found some clues which lead us to think there may be opportunities for things to be different, and that is related to three interwoven features:

- First, and unlike that pioneering concept, CE establishes an attainable and concrete line of action to materialize this synergy, based on disruptive (re)design practices for productive processes “as we know them” through the intensive use of digital technologies (for design and communication). From those productive processes, it will be possible to prepare new combinations between subjectivities-goods and services-values and rules, capable of reorienting the current consumption and welfare models.
- Along those lines, it puts forward the idea of operating on a more concrete temporality and spatiality, linked to manageable transformations as regards dominant production and consumption systems, and not only to more ethereal global action goals, difficult to anchor here and now.
- Finally, as a narrative, it is based on “successful” empirical cases, located mostly in central countries and involving large corporations, rather than being limited to a handful of anecdotal experiences from the system’s margins.

Unlike the philosophical-existential propositions of sustainable development, which entailed transforming the present based on an intangible projection into the future (for the next generations), CE is at once targeted, situated, and apparently attainable here and now. Thus, this narrative proves simultaneously utopian and believable, universal and situated, conservative and disruptive: all of this renders it very attractive in the eyes of political decision-makers, business people, and even academics.

However, it also proposes a broad interpretation of the role of innovation. Under CE, innovation is not restricted to artifact development. Rather, it attempts to give a new prominent role to design in the re-configuration of productive systems. In this sense, it does not focus on the development of a series of innovative products, but on the structural and systemic effects of innovation, which should be used to radically redesign current business models, but ensuring at the same time the continuity of their identities and trajectories. In other words, it stresses that developing innovative products for innovation's sake, without addressing the linear business models and productive systems which have contributed to an unprecedented socio-environmental crisis, is not acceptable. Thus, from the point

of view of CE, innovation is, above all, the possibility of designing different ways of producing, consuming, disposing, exchanging, owning and, of course, learning from the process itself. In this sense, CE's proposal posits a very challenging set of questions, such as whether it is possible to design non-waste, or how to design goods and services for a flow-based, rather than stock-based, economy, or even what challenges does designing the transition towards a circular economy entail.

Thus, the disruptive role assigned to design and innovation in the context of CE shows a broad performative potential, and increasingly shows its capability to align agendas and interests from public and private actors with far-reaching incidence in the socio-economic scenario, both at the local and the global levels. In this sense, we see this as a clear opportunity to influence the techno-cognitive matrix organizing the dominant model of production, consumption, and disposal of goods and services. However, this begs the question of what that opportunity entails, which we answer in the following section.



## Why develop an “open” lab?

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The transition to a circular model requires rethinking our epistemic matrix, by actively involving subordinated knowledge systems which were historically invisibilized and/or subordinated, such as those developed by peasant organizations and indigenous people, migrant and worker collectives, particularly those categorized as "informal."

We think that in order to boost the CE proposal's potential for transformation and energize the disruptive effect of design and innovation, changing the orientations and general goals which shape the current techno-cognitive matrix is not enough. We also need to deeply rethink our theoretical and methodological tools, as well as redefine the types of relationships and actors involved in the transition process.

The linear economy cannot be separated from a system for the production of scientific and technological knowledge with a clear anthropocentric, capital-centric, androcentric, positivist, and elitist bias. In this sense,

it is organized based on a set of axiomatic assumptions, such as the link between economic growth and social progress, the ontological distinction between nature and culture, the atomistic conception of the social sphere reduced to an aggregation of market preferences, among many others. Indeed, we see these assumptions as clear signs of a looming and unprecedented crisis, which manifests itself in various and heterogeneous ways, including the debates surrounding the Anthropocene as a new era marked precisely by the breadth and speed of anthropic transformations at the level of the planet; the matter of the biocentric turn and the recognition of nature's rights; the

critique of feminist economics and the central role given to the reproduction of life; the decolonialist critique and the activation of ontological and epistemic differences, to name but a few. It follows, then, that it is necessary to assume a systemic perspective to move forward in a transition from a linear paradigm to a circular one. Otherwise, the transformations' magnitude will be shallow and operate on appearances rather than substantial issues.



Indeed, with a few exceptions, the dominant orientation in the implementation of CE models shows clear signs of this limitation. Thus, an overwhelming majority of “successful” CE cases are restricted to transformations in intra-company productive infrastructures, basically focused on an engineering perspective and centered on market goals (anticipating new regulatory scenarios,

achieving comparative advantages through “circular” products and services, etc.) In other words, the linear matrix is not sufficiently challenged, as circular elements are restricted to a manageable sphere (marketing), reproducing existing asymmetries derived from the dominance of professional (legal, engineering, economic and, now, also design) expertise.

In LabIEC, we posit that leaving the linear model behind requires a deep rethinking of the epistemic and techno-cognitive dimension as well. In this sense, we see CE as an opportunity to create the room needed to actively involve the actors whose knowledge has been historically ignored or subordinated in the design of the major systems, procedures, and infrastructures organizing our economy. If CE represents a deep transformation of the linear model, then it must involve other rationalities and ways of thinking, projecting, and exercising the relation with other humans and non-humans. This entails making room for other ontologies and epistemologies, but not from an instrumentalist or museistic attitude towards diversity, but assuming these actors can provide inputs to the development of a circular perspective which will be deeper and more consistent than the one we can



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attain from our standpoint, marked by education and validation systems shaped by the linear model.

In this sense, we posit the need to involve actors offering different perspectives in order to make alterity a key tool. Along those lines, the idea, in techno-cognitive and epistemic terms, is to energize the alienation towards the linear model we described above: finding the keys to think in systemic terms the departure from the linear model and the construction of a broad and unrestricted circular model. The involvement of “users” in design processes for a circular economy is clearly positive, but by no means sufficient. We need to radically destabilize the epistemic and techno-cognitive matrix of the linear economy, and that means to involve, challenge, and learn from other perspectives, which can be provided both by groups which are recognized as possessing “other” knowledge, such as peasants and members of indigenous peoples, and groups which are yet to free themselves from demeaning views, such as immigrants and laborers, particularly those classified as “informal”.

To illustrate the last point, we believe we have much to learn from the indigenous communities which theorized about the circular nature of life flows long before us. We can also learn from grassroots recyclers, who learnt about flows and loops through their everyday materiality, achieving a wealth of knowledge which cannot be equated to nor replaced by the physics and chemistry of plastics and other materials. It is in this sense that LabIEC was designed as an “open lab”. It is a lab inasmuch as it prioritizes exploration and creativity in the search for short-term results; indeed, we believe we must reconnect our practice with this dimension of scientific work aimed at rethinking everything, even our theoretical and methodological starting points. And it is open precisely because it makes real room to a perspective of epistemic plurality, recognizing the techno-cognitive value of practices and repertoires of lore which, on account of their being far from our own standards, have been discredited, made invisible, and subordinated by normal science and technology.





## Why a Circular Economy "from below"?

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We deploy a situated gaze about Circular Economy by recognizing our perspective of enunciation, rather than our geographical location. So, even when our thinking, commitment and action is located from the South, we frame a Circular Economy "from below" which relies on the commensurability of popular struggles and debates on a global scale.

As regards the last point, we believe it is necessary to broaden the epistemic arena of the debate put forward by CE. So far, this space has actively involved scientists, technologists, academics, businesspeople, and officials, but there is glaring lack of representatives from the world of labor (such as unions, workers' cooperatives, popular economy organizations from urban and rural contexts), as well as representatives from social movements linked to peasant and indigenous peoples' organizations, whom this debate has failed to properly address. As a result, contemporary discussions of CE mostly fail to include reflections on its potential impact in key aspects, such as job precariousness, informality, food sovereignty, or the right to the city and

to the basic resources for the reproduction of life, such as water. Simply put, if these actors are not actively involved in the debate, these issues will continue to be excluded or marginalized, and their perspectives will be subordinated to professional and expert positions. And this is a serious issue: given the speed and attractiveness of CE's proposal in the corporate and government spheres, it is plausible to say that the above groups are missing an opportunity to shape the design of their future, that is, the new socio-productive realities they will have to act in, face, resist and/or re-signify. As an example, we can consider the way CE is effecting a radical transformation in the economy of plastics at the global level, with a clear orientation towards replacing these

polymers with materials based on biodegradable biomaterials. As a result, local and global recycling economies, whose flows involve hundreds of thousands of grassroots recyclers, will see significant changes in the medium and long terms, which will include the outright disappearance of whole productive circuits. This is something to be considered jointly with grassroots recycler organizations in order to anticipate proposals and strategies to avoid for the weakest link to take the brunt of the change, as is usually the case.

However, it is also critical to involve these actors in a supplementary, and to a certain extent reverse, way: that is, not with the goal of minimizing potential impacts on these groups, but rather, in order to prioritize and value their contributions and innovations in terms of developing and adapting a CE not only in their contexts and territories, but also as regards their purposes and goals. In this sense, a CE conceived with a focus beyond the increase of profit rates or the creation of new niche markets, requires accepting the contributions of these counterparts in order to make the uncomfortable questions which are yet to be made. Some of these questions are related to the fit between the CE proposal, developed mainly



in Northern countries, and the context of the Global South. For instance, which strategies may be developed to implement a CE in highly informal contexts as opposed to hyper-regulated situations? Other issues are clearly cross-cutting in nature, for instance, how can we design material and energy feedback loops which favor and strengthen productive systems restricted to small areas, rather than continue to resort to large-scale logistics?





In this sense, we prefer to use an enunciation perspective rather than one related to the region we belong to. Even though our thinking, our commitment, and our action have a clear Southern anchor, we believe in the possibility of creating a “from below” CE based on the commensurable nature of popular struggles and debates at the global scale. North and South of the Equator, the contemporary trajectory of the debate surrounding CE shows perfect symmetry between protagonists and witnesses. Thus, the effectively disruptive divide is not between North and South, but between those who designed and implemented the current dominant linear system and those who have created “circular” strategies in terms of servosystems to ensure a livelihood. The idea of “from below”, then, refers to actors and organizations which began resorting to circular production and consumption ideas even before the concept of CE stabilized itself in its academic and political dimension.

This is a response to three interrelated reasons. First, we want to claim the legitimate right to intervene (and, if needed, destabilize) the current status of the debate on a perspective which aims at transforming the living and work conditions in the near term. Second, we believe that CE’s value is directly proportional to the diversity of positions and interests aligned in furthering its development. Lastly, we consider that further development of CE’s disruptive nature requires involving new actors, recognizing their epistemic and techno-cognitive contributions symmetrically. Departure from a linear deterministic model demands much more than designing circular flows and loops: it requires, above all, assuming the commitment of (re)thinking the production of knowledge and materialities (artifact-, process-, and organization-related) in a plural, open, and collaborative fashion. It is a significant challenge, and the doors of LabIEC’s are open.

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