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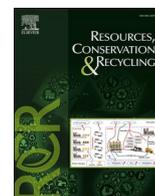To cite this publication, please use the final published version (if applicable).
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Perspective

Circular Economy as a relational challenge - The importance of „Relate", "resonate" and "Responsibilise" as guiding orientations for systemic circular transitions

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The Circular Economy (CE) has become a central paradigm in contemporary sustainability debates, lauded for its promise to decouple economic growth from resource consumption. Dominated by strategies that focus on closing, narrowing and slowing down material flows, the CE is often conceptualized in terms of business model redesigns and technological innovation. While these strategies have advanced the discourse and practice of CE, we argue that they remain insufficient for enabling the systemic transformation CE aspires to achieve.

In this Perspective paper, we argue for a relational reframing of CE. Specifically, we introduce three interlinked relational orientations — relate, resonate, and responsibilise — that can serve as meta-principles underpinning a more holistic and transformative approach to circularity. These principles are not to be understood as additional R-strategies in the operational sense (like reuse, recycle, refurbish), but as ontological commitments that address the quality and structure of relationships among actors, systems, and nature in circular systems.

CE's historical roots reflect diverse visions. Calisto Friant et al. (2020) categorize CE discourses into various schools of thought, including reformist, transformative, and technocentric perspectives. Our intention aligns with the transformative line of thought, emphasizing the need to reconfigure socio-material relationships in circular transitions, rather than merely optimizing flows within existing structures. Three foundational shifts underlie this "relational turn":

Redefinition of value: CE challenges linear economic models by advocating value retention over value extraction. This involves preserving the utility of materials, products, and services for as long as possible. It also calls for a redistribution of roles among producers, consumers, and service providers to support the regeneration of value. These shifts imply new relationships and collaborations across the value chain (Haase et al. 2024).

Redistribution of agency and responsibility: Achieving circularity requires collaborative governance and shared responsibility among diverse stakeholders, including businesses, policymakers, consumers, and nature itself. Rather than placing the burden solely on end-users or individual firms, a relational CE fosters distributed agency .

Reorientation towards needs: A relational CE recognizes that consumption should be guided not by market demand alone, but by a better match between nature's (reproductive) capabilities and society's resource needs. This entails a shift from a mere optimisation and efficiency paradigm towards an integration of sufficiency and care, particularly in producer-consumer relationships (Beyeler & Jaeger-Erben 2024).

Together, these shifts demand a reconsideration of how relations are built, sustained, and transformed in CE systems.

Meta-Principles for relational circularity

Redefinition, redistribution and reorientation all entail that actors along the value chain leave their established roles and connect around products and materials in circular ecosystems.

We propose three interrelated principles to guide this transformation:

1. **"Relate"** concerns the formation of connections among diverse actors along the lifecycle of materials and products. Circular systems rely on industrial symbiosis, product attachment and longevity, information sharing, and multi-stakeholder collaboration. For example, recycling companies, designers, and regulators must

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coordinate to close material loops. These connections are not merely logistical; they are political, ethical, and epistemological. Relating also involves recognizing the entanglement of human and non-human actors in CE. This includes acknowledging nature not as a passive resource base but as an active stakeholder. Frameworks like the "rights of nature" offer legal and moral tools to integrate ecological concerns more deeply into CE governance.

2. **"Resonate"** involves developing mutual understanding and responsiveness among actors, i.e. the ability to recognize and respond to the values, routines, and constraints of others. In CE contexts, this could mean designing products with an awareness of diverse user needs, or aligning industrial practices with ecosystem capacities. This principle is particularly relevant when navigating cross-cultural and cross-sectoral differences in CE practices. For instance, informal repair economies in the Global South often operate under radically different logics than formal CE initiatives in Europe. A relational CE must resonate with these contextual specificities rather than imposing a universal model.

3. **"Responsibilise"** or responsibilisation is the process of cultivating and distributing accountability across actors. This involves not only legal or regulatory accountability, but also moral and relational forms of responsibility. Businesses must consider the social and environmental consequences of their design and sourcing decisions; consumers must be enabled to participate meaningfully in circular systems; and policymakers must facilitate enabling environments for circular practives. Responsibilise also extends to systemic issues such as equity, inclusion, and justice. Circularity should not exacerbate existing social inequalities or environmental burdens. Participatory governance, transparency, and procedural justice are essential components of a relational approach to CE.

Application of relational principles across scales

These principles are relevant across two broad domains: 1) business relations and production-consumption cycles, and 2) the broader scale of societal nature-relations.

In corporate contexts, relational principles can guide the establishment of more robust and resilient circular systems. Trust is a key enabler of industrial symbiosis, where waste, materials, by-products etc. from one sector becomes input for another. Innovation increasingly relies on collaborative platforms, co-design processes, and open sharing of data and resources (Brown et al. 2019). Digital tools like the Digital Product Passport (DPP) can support relational strategies by making product histories transparent and accessible. However, their impact depends on how they are implemented. If used solely for compliance or efficiency, their potential is limited. If designed to foster trust, equity, and shared knowledge, they can become instruments of resonance and responsibilisation.

At a broader scale, CE can be reimagined as a shift from a production to a reproduction logic in societal nature relations. This aligns with feminist and indigenous perspectives that emphasize care, interdependence, and regeneration. Recognizing the rights of nature, for instance, challenges extractivist logics and offers a pathway toward ecological justice. Societal transitions toward circularity also involve recognizing diverse knowledge systems, particularly those rooted in the Global South. Many of these systems have long practiced forms of circularity that are relational rather than technical. Integrating such perspectives enhances the inclusivity and resilience of CE.

Conclusion

CE represents a transformative approach to sustainable development, but its success depends on fostering collaborative and trustful relationships. Adopting a relational paradigm (cf. Walsh et al. 2021) in CE research and practice shifts the focus to the relationships between stakeholders, products, and ecosystems. Relational principles offer a framework to not only design and manage these relationships in CE practice but also provide a framework for CE research to analyse the quality of relationships within business ecosystems. However, implementing relational CE principles is not without challenges. Data-sharing among firms may be constrained by competitive concerns, producers and consumers might resist the need to establish care relationships because they require time and effort. Perhaps most fundamentally, relational approaches challenge dominant economic paradigms based on individualism, competition, and perpetual growth. Questioning these foundational assumptions can provoke resistance from powerful institutional actors.

Future research could among others explore:

- how relational approaches can reshape power relations within CE and foster more equitable transitions that include a focus on sufficiency.
- what new institutional forms or legal frameworks are required to embed relational principles across different domains.
- how diverse ontologies of circularity can coexist and be brought into constructive dialogue without being subsumed under a dominant paradigm.

CRediT authorship contribution statement

Melanie Jaeger-Erben: Writing – review & editing, Writing – original draft, Conceptualization. **Nancy Bocken:** Writing – review & editing, Conceptualization. **Louise Møller Haase:** Writing – review & editing, Conceptualization. **Michael Søgaard Jørgensen:** Conceptualization. **Mette Alberg Mosgaard:** Writing – review & editing, Conceptualization. **Ruth Mugge:** Writing – review & editing, Conceptualization.

Declaration of competing interest

Data availability

No data was used for the research described in the article.

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