

Editorial

From innovations to exnovations. Conflicts, (De-)Politicization processes, and power relations are key in analysing the ecological crisis

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The genesis of this special issue

The idea for this special issue on ‘Analysing the Ecological Crisis: Conflicts, (De-)Politicization, and Power Relations’ was born at the international Conference entitled ‘Breaking the Rules! Energy Transitions as Social Innovations’ that took place in Berlin (Germany) in June 2018, hosted by the Leibniz Research Alliance on Energy Transitions. During two days of theorizing about social energy innovations, presenting real life experiences from different parts of the world, and engaging in thought-provoking debates, a group of papers crystallized that shared an interest in the nexus between the ecological crisis and questions of conflict, (de-)politicization, and power. With the aim of continuing the debate, we launched this special issue. It contains elaborated presentations from the conference, as well as supplementary articles with a similar focus.

While the lectures during the conference were grounded in different theoretical perspectives, two broad topics were present in all of them – ‘energy transition’ and ‘social innovation’ – in alignment with the title of the conference. Some papers in this special issue theorize explicitly about the concept of energy transition, while others tackle it from a broader perspective via the umbrella of the ecological crisis. However, although the idea of social innovation exists in all of the articles (in the eight articles, the reader can find innovations related to practices, policies, strategies, and actors participating in energy transitions), none of them explicitly discusses the concept of social innovation itself. Therefore, we use this editorial to present our perspective on social innovation and to provide possible reasons for the neglect of the concept, and to place emphasis on the issues of conflict, (de-)politicization, and power. Our theoretical standpoint is based on ideas stemming from the degrowth approach which, more or less explicitly, can be found in all eight articles of this compilation. Though we are unable to elaborate on the degrowth approach here, we would like to briefly mention some of its essential elements.

Since the strategies of ‘green growth’ have so far not led to a reduction in global emissions and resource consumption (IPCC 2014, 6; Lorek 2015; Secretariat of the Convention on Biological Diversity 2014, 12), let alone reduced social injustice and power asymmetries, the demand for degrowth is a criticism of the primacy of economic growth. The reduction of economic growth is not seen as a goal in itself; rather, it is assumed that a reduction of the throughput of an economy (the flow of energy, materials, and waste) is necessary in order to achieve social and ecological justice (both within individual societies

and at the global level) (D’Alisa, Demaria, and Kallis 2015). It is assumed that the reduction in throughput will in turn lead to a reduction in economic growth. In this context, one has to emphasize that ‘[t]he goal of degrowth is *not* to make GDP growth negative’ (Kallis 2018, 9), but to decrease the throughput (energy, materials, and waste flows) of an economy. As ‘degrowing throughput will in all likelihood come with degrowing output’ (Kallis 2018, 9), it is the degrowth hypothesis that ‘a social transformation in an egalitarian and ecologically sustainable direction will in all likelihood decrease GDP’ (Kallis 2018, 9).

The concept of social innovation from a degrowth perspective

The concept of social innovation is very popular in sustainability and transformation research. Broadly speaking, the concept covers new forms of organization, business models, consumption practices, etc. that (are supposed to) lead to social change, towards greater sustainability. This is based on the assumption that a social-ecological transformation cannot be reached by techno-economic innovations alone; instead, new social practices are needed to initiate transformation processes that go beyond the techno-economic innovations and to tap the full potential of the latter in the first place (for an overview and discussion of various definitions and applications of the term social innovation see Marques, Morgan, and Richardson 2018; Moulaert, MacCallum, and Hillier 2013).

Various authors complain that social innovation has become a ‘buzzword’ or a ‘container concept’ that has no agreed upon definition (i.e. De Muro et al. 2007; Edwards-Schachter, Matti, and Alcántara 2012; Mulgan et al. 2007). Pol and Ville summarize this when they say that “‘Social innovation’ is a term that almost everybody likes, but nobody is quite sure of what it means’ (Pol and Ville 2009, 881). We think, however, that the lack of an agreed upon definition is not a problem; this is something that holds true for most concepts in the social sciences. If one prefers more clarity, one can always either propose a sharpened definition (i.e. Marques, Morgan, and Richardson 2018) or embed the concept in a theoretical approach that provides a clearer orientation (i.e. Pellicer-Sifres et al. 2017). What worries us it not that ‘nobody is quite sure of what it means’; the real issue is rather that it ‘is a term that almost everybody likes,’ but one that doesn’t challenge anything or anyone. The reasons for the broad agreement on the concept and its problematic implications are two sides of the same coin.

In the following, we will discuss some of the problematic aspects of the concept of social innovation. In order to avoid misunderstandings, however, we would like to explicitly emphasize at the outset that there is no doubt that good research has also been carried out under the label of social innovation, and that it can continue to be useful to work with the concept for certain research questions. Accordingly, we will touch on the valuable ideas that have emanated from the concept of social innovation. In this sense, we would like to mention three main reasons why the concept of social innovation seems attractive to many scientists:

- (1) The concept of social innovation increases attention for the complex social requirements of socio-ecological transformation processes (Grimm et al. 2013).
- (2) Social innovation is very practice-relevant. It has a high impact as an orientation for policy instruments and funding programs (Jessop et al. 2013, 110; Grimm et al. 2013; Marques, Morgan, and Richardson 2018, 496; Moulaert et al. 2013, 1).
- (3) The concept contributes to an increased reputation of niches and, thus, to an appreciation of grassroots initiatives within civil society (Pellicer-Sifres et al. 2017). Under headings such as citizens’ energy, communing, and solidarity

economy a diverse range of groups have taken centre stage that also have been attributed with having great transformative potential within the degrowth debate (Exner and Lauk 2012; Hargreaves et al. 2013; Seyfang and Smith 2007).

These positive aspects, however, are contrasted by issues that are regarded as problematic from a degrowth perspective:

- (1) The concept overstretches the imperative of innovation. It presumes that it is always the (alleged or actual) innovations that are relevant for the socio-ecological transformation (Jaeger-Erben, John, and Rückert-John 2017, 248). This assumption has negative implications in two senses. First, the attention is inevitably on the phenomena of innovation. Therefore, it is easily overlooked that the transformative potential of certain practices or initiatives can often be found at a different level; for example, in experiences of self-empowerment and self-efficacy (Jaeger-Erben, John, and Rückert-John 2017, 248). Second, the expectation of innovation increases the principle of permanent activation of not yet fully exhausted physical, social, and cultural energy sources (Rosa, Dörre, and Lessenich 2017, 61ff). This has very concrete consequences, for example, regarding the criteria of funding programs. The requirement (of many calls for proposals) of project- and innovation-oriented work is an obstacle to the continuation of many activities and initiatives in the sector of alternative economies. In general, the imperative of innovation fuels the logic of acceleration and associated symptoms, like the short and frequent deadlines, the abbreviation of planning horizons, and also the simulation of innovations (Kropp 2015, 24).
- (2) The concept of social innovation has a ‘harmonious’ bias. Conflicts and questions of power are underexposed. Such disharmonious processes are primarily not carried out with regard to innovations, but rather with regard to exnovations. The term exnovation refers to the intended elimination (or dismantling) of practices, products, technologies, and infrastructure (Gross and Mautz 2015, 3; Heyen, Hermwille, and Wehnert 2017, 326). Although the term originally emerged in macro-organizational innovation studies (where it had a very different meaning; Kimberly 1981), it has recently gained attention in the literature on socio-technical transitions (Heyen 2017; Heyen, Hermwille, and Wehnert 2017) and, more precisely, in the literature analysing the case of the German Energiewende (David 2017, 2018; David and Gross 2019). Exnovations can be pushed by different actors and for different reasons. They can be carried out suddenly or gradually. From a degrowth perspective, it is the exnovation of very resource intensive practices and objects that is of particular interest. Almost inevitably, exnovations are accompanied by conflicts. After all, the users and those who profit from the elements selected for elimination usually have an interest in the perpetuation of the existing patterns of production and consumption (David 2018, 523; Heyen 2017, 10; Heyen, Hermwille, and Wehnert 2017, 327f). However, it is obvious that an ambitious socio-ecological transformation cannot be reached by adding new innovative practices, products, technologies, and infrastructure without tackling the existing ones (Gross and Mautz 2015, 146; Kivimaa and Kern 2016). This is manifested, for instance, in the clean energy transitions taking place in many societies. The increase in renewable energy (in the electricity sector) in quite a few countries is tremendous; however, the fossil energy production in these countries very often remains constant. The exnovation of fossil energy production

- (especially coal and lignite) is the crucial factor for a significant reduction of greenhouse gas emissions. It is precisely on this point that the clean energy transitions haven't made decisive progress because the phase-out of fossil fuels inevitably implies harsh conflicts (David and Gross 2019; Gross and Mautz 2015, 146). In order to be able to grasp the massive tendencies of inertia, scientific concepts that are sensitive to the (necessity of) conflicts and questions of power that are linked with exnovation efforts are needed. After all, the reduced production and consumption of goods and services that goes hand in hand with abandoning habits and privileges, is central from a degrowth perspective (Arnold et al. 2015).
- (3) The concept of social innovation favours incremental over transformative approaches. The term incrementalism refers to the notion of resolving complex problems via small steps. Incremental approaches avoid radical changes. Instead, the established structures are supposed to be enhanced and optimized as long as possible (Smerecnik and Renegar 2010, 162). In contrast, transformative approaches aim at a break with hegemonic structures. Practices and strategies of (collective) actors can be classified as transformative if they aim to change social values, norms, and institutions. Transformative politics implies not to ensconce oneself in the small niches of alternative communities or projects, but to fight battles and take up positions in social struggles (Calvário and Kallis 2017, 599ff). Only a few of the initiatives that commonly are labelled as social innovations have such a transformative claim (Howaldt and Schwarz 2017, 242f; Kropp 2015, 18; Smith, Fressoli, and Thomas 2014). Rather, most initiatives step into the breach when traditional forms of economic and state action fail to offer adequate solutions for social and ecological problems. In this sense, many social innovations take on a repair function, without changing the related institutional frameworks and structural conditions (Howaldt and Schwarz 2017, 242f). It seems to us that this predominance of incremental approaches represents not just a snap-shot. It is not a coincidence that social innovations in most cases aim to modernize existing structures. After all, the concept of social innovation is based on assumptions from modernization theory in which continuous development is the unquestioned goal to be achieved by steady technical and social progress (Kropp 2015). Thereby, the concept of social innovation remains connected to the concepts and the logics of growth and acceleration that have led to the socio-ecological crisis in the first place (Rosa, Dörre, and Lessenich 2017, 61). The concept fits in the mode of dynamic stabilization that is typical for modern societies (Rosa, Dörre, and Lessenich 2017, 54) and which is – from a degrowth perspective – part of the problem.
- (4) The lack of critical examination of assumptions of modernization theory also becomes apparent in another respect: the focus on innovations distorts the fact that (both at the local and global level) it is rather the traditional lifestyles that tend to be compatible with degrowth (Kallis et al. 2018). If one takes this allegedly trivial statement seriously, the sweeping focus on innovation becomes questionable. Shouldn't the focus rather be on existing (but partly already lost) marginalized, peripheral, allegedly outdated, or simply neglected social worlds that are not characterized by their innovative power, but by their immobility, passivity, and contemplation? Furthermore, the question arises of whether so-called traditional or indigenous societies that are remote in space and/or time can provide inspiration for the construction of societal institutions that are adaptive, without operating in the mode of an accelerating dynamic stabilization (Kallis et al. 2018; Nirmal and Rocheleau 2019; Rosa, Dörre, and Lessenich 2017, 64f).

The points of criticism mentioned above have two main thrusts. First, we argue that the concept of social innovation does not necessarily focus on the phenomena that are crucial for transformation towards a degrowth society. The necessity to politicize assumptions of modernization theory remains underexposed, just like the relevance of conflicts (about exnovations). Second, we want to emphasize that the practice-relevant impact of the concept is ambivalent. The increased attention on the complex social requirements of socio-ecological transformation processes and the appreciation of grassroots initiatives is accompanied by a reproduction of the logic of acceleration, which has to be considered to be part of the problem.

Therefore, the thesis from this editorial is that – from a degrowth perspective – one should abandon the concept of social innovation. As an alternative, it seems to be more promising to link with debates about *buen vivir* (Altmann 2013; Cubillo-Guevara and Hidalgo-Capitán 2015), degrowth (Kallis 2018), imperial mode of living (Brand and Wissen 2018), (neo-)extractivism (Gudynas 2018), post-development (Escobar 1995), and environmental and climate justice (Martinez-Alier et al. 2014), which do not revolve around alternative development paths but around alternatives to (the fixation on) development (Escobar 2015). This implies naming certain assumptions, institutions, and basic principles of ‘western’ modernity causes of the socio-ecological crisis, and demanding that they be overcome.

In this context, it is imperative to spotlight the crucial importance of conflicts (about exnovations), (de-)politicizing processes, and power relations. Furthermore, the question arises, what alternative narratives exist that are suitable to initiate processes of collective self-reflection and empowerment and entail experiences of resonance and self-efficacy (Jaeger-Erben, John, and Rückert-John 2017, 248; Rosa 2016, 367ff). The eight papers featured in this issue tackle these challenges – with different emphases and from different starting points. They differ in whether they focus on actors from below; actors from above; actors from outside; or potential actors, coalitions, and strategies (that are yet to come).

The contributions of this special issue

The first three articles of this special issue focus on politicizing processes that are initiated by actors from below. Victoria Pellicer-Sifres (‘Transformative Energy Transition from the Bottom-Up: Exploring the Contribution of Grassroots Innovations in the Spanish Context’) explores the role of active citizenship within the Spanish energy transition. She discusses why and how grassroots innovations are particularly relevant for socio-ecological transformation processes. Pellicer-Sifres identifies the values of equity, sustainability, participation, and diversity as characteristic of the ‘Transformative Energy Transition’ promoted by the grassroots initiatives arising out of political activism.

The paper by Ivan Cuesta-Fernandez, Sergio Belda-Miquel, and Carola Calabuig Tormo (‘Challengers in Energy Transition Beyond Grassroots Environmentalism: Community-Based Electricity Cooperatives in the Valencia Region’) unveils – based on the Multi-Level Perspective – the diversity of niches that have emerged in Spain since the early 2000s in response to landscape pressures and an adapting energy regime. Building on this, the authors elaborate on the singularities of a largely overlooked challenger of the energy regime, the niche of community-owned electricity distribution cooperatives. Cuesta-Fernandez et al. conclude that cross-ideological political coalitions between different actors from the diverse niches could become an important force for change.

The third article (‘Ecologists by Default? How the Indigenous Movement in Ecuador Became Protector of Nature’), authored by Philipp Altmann, analyses how the discourse of

the indigenous movement in Ecuador changed from the 1920s to today. Altmann observes an integration of nature-related frames and claims within the indigenous discourse. In this context, the concept of the *sumak kawsay* (or *buen vivir*) has taken a prominent position in recent years. Altmann describes the ecologization of the movement as a strategic framing by indigenous organizations, taking into account the relevance of influential external actors and the perceived cultural opportunities and constraints.

The fourth paper, by Cristián Flores Fernández ('Preliminary Analysis of the Chilean Energy 'Transition:' Between Successful Energy Policy and Assimilation of the Post-Politics of Socio-Ecological Transformations'), focuses on (de-)politicizing processes that are initiated by actors from above, mainly by the Chilean government. From the theoretical perspectives of depoliticization, post-politicization, and energy democracy, Flores analyses the historical political context as well as the most relevant policies and legislative reforms that shaped the recent energy transition in Chile. He concludes that the integration of renewable energies in the energy matrix has not implied an advance towards a more decentralized and democratic energy system. On the contrary, the new energy policies have contributed to the perpetuation of current power relations and hegemonic structures.

The following two articles (five and six) focus on (de-)politicizing processes that are initiated by actors from outside. Katharina Wiese ('Energy 4 All? Investigating Gendered Energy Justice Implications of Community-Based Micro-Hydropower Cooperatives in Ethiopia') explores the gendered justice implications of low carbon energy projects. She analyses four community-based micro-hydropower projects in Ethiopia that were implemented by the German Development Cooperation (GIZ). Her findings show that – although the projects generally achieved positive outcomes for the lives of the villagers – the energy needs of women were insufficiently addressed and the effective participation of women in the management of the cooperatives was impeded by overarching power relations and hegemonic structures. Wiese proposes further development of the energy justice framework in order to account for the gendered and intersectional dimensions of justice implications of low-carbon energy systems in culturally and geographically diverse contexts in the Global South.

In the sixth paper ('Challenging Traditional Energy Settings in the Humanitarian Aid: Experiences from Doctors Without Borders'), Maria Ten-Palomares and Elvina Motard discuss the challenges faced by intervening actors that try to balance the urgency and complexity of their tasks with an ecological perspective. Based on observations of *Médecins Sans Frontières*, a medical humanitarian organization that is rethinking its traditional logic of energy planning, Ten-Palomares and Motard discuss the plurality of those challenges, aiming to develop a better understanding of the relationship between particular energy infrastructures and specific social settings.

Articles seven and eight focus on conceptual and methodological reflections on potential coalitions and strategies that are yet to come. Dennis Eversberg ('Who Can Challenge the Imperial Mode of Living? The Terrain of Struggles for Social-Ecological Transformation in the German Population') draws on survey data in order to identify the potential social bases of both support for and resistance to a broad social-ecological transformation. He concludes that the resistance to transformation is not simply a matter of attitudes, but is deeply rooted in the infrastructures of the imperial model of living and the specific ways social groups are integrated into them. Thus, instead of raising consciousness, transformational strategies should focus on altering those infrastructures themselves, thereby, acknowledging that significant segments of the population will not be won over, but have to be politically defeated.

In the eighth and final paper of this special issue ('Identifying Strategic Entry Points for Transformative Politics Towards a Degrowth Society. How to Operationalize the Concept of the 'Imperial Mode of Living' for Empirical Research'), Timmo Krüger outlines how the concept of the 'imperial mode of living' can be operationalized for empirical research. He demonstrates how a specific method – the interpretation of enthymemes – can be useful for analysing the dissemination, attractiveness, and stability of the imperial mode of living in certain socio-political milieus. He concludes by looking at how these insights can provide essential background information for identifying strategic entry points for transformative politics towards a degrowth society.

The eight articles of this issue – regardless of the diversity of cases studied, theories used, and findings gained – are held together by a shared story. All of the papers start from the assumption that research should identify and challenge hegemonic structures, power relations, and depoliticization processes that hinder transformation efforts, from reducing emissions and resource consumption effectively, to tackling social injustice and power asymmetries. To summarize, all of the articles provide reflections on the linkage between solving the ecological crisis and the importance of changing social structures, values, and practices, with a special focus on (but not limited to) conflicts in the energy sector.

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References

- Altmann, Philipp. 2013. "Good Life as a Social Movement Proposal for Natural Resource Use: The Indigenous Movement in Ecuador." *Consilience: The Journal of Sustainable Development* 10 (1): 59–71.
- Arnold, Annika, Martin David, Gerolf Hanke, and Marco Sonnberger. 2015. *Innovation – Exnovation: Über Prozesse des Abschaffens und Erneuerns in der Nachhaltigkeitstransformation. Ökologie und Wirtschaftsforschung*. Marburg: Metropolis.
- Brand, Ulrich, and Markus Wissen. 2018. *The Limits to Capitalist Nature: Theorizing and Overcoming the Imperial Mode of Living. Transforming Capitalism*. London: Rowman & Littlefield International.
- Calvário, Rita, and Giorgos Kallis. 2017. "Alternative Food Economies and Transformative Politics in Times of Crisis: Insights from the Basque Country and Greece." *Antipode* 49 (3): 597–616. doi:10.1111/anti.12298.
- Cubillo-Guevara, Ana Patricia, and Antonio Luis Hidalgo-Capitán. 2015. "El Sumak Kawsay Genuino Como Fenómeno Social Amazónico Ecuatoriano." *OBETS* 10: 2. doi:10.14198/OBETS2015.10.2.02.
- D'Alisa, Giacomo, Federico Demaria, and Giorgos Kallis. 2015. *Degrowth: A Vocabulary for a New Era*. New York: Routledge.
- David, Martin. 2017. "Moving Beyond the Heuristic of Creative Destruction: Targeting Exnovation with Policy Mixes for Energy Transitions." *Energy Research & Social Science* 33: 138–146. doi:10.1016/j.erss.2017.09.023.
- David, Martin. 2018. "Exnovation as a Necessary Factor in Successful Energy Transitions." In *Oxford Handbook of Energy and Society*, edited by Debra Davidson, Matthias Gross, and Martin David, 520–537. Oxford: Oxford University Press.

- David, Martin, and Matthias Gross. 2019. "Futurizing Politics and the Sustainability of Real-World Experiments. What Role for Innovation and Exnovation in the German Energy Transition?" *Sustainability Science* 14 (4): 991–1000.
- De Muro, Pasquale, Abdelillah Hamdouch, Stuart Cameron, and Frank Moulaert. 2007. "Organisations de La Société Civile, Innovation Sociale et Gouvernance de La Lutte Contre La Pauvreté Dans Le Tiers-Monde." *Mondes En Développement* 139 (3): 25–42. doi:10.3917/med.139.0025.
- Edwards-Schachter, Mónica E., Cristian E. Matti, and Enrique Alcántara. 2012. "Fostering Quality of Life Through Social Innovation: A Living Lab Methodology Study Case." *Review of Policy Research* 29 (6): 672–692. doi:10.1111/j.1541-1338.2012.00588.
- Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*. Princeton: Princeton University Press.
- Escobar, Arturo. 2015. "Degrowth, Postdevelopment, and Transitions: A Preliminary Conversation." *Sustainability Science* 10 (3): 451–462. doi:10.1007/s11625-015-0297-5.
- Exner, Andreas, and Christian Lauk. 2012. "Social Innovations for Economic Degrowth." *Solutions* 3 (4): 45–49.
- Grimm, Robert, Christopher Fox, Susan Baines, and Kevin Albertson. 2013. "Social Innovation, an Answer to Contemporary Societal Challenges? Locating the Concept in Theory and Practice." *Innovation: The European Journal of Social Science Research* 26 (4): 436–455. doi:10.1080/13511610.2013.848163.
- Gross, Matthias, and Rüdiger Mautz. 2015. *Renewable Energies*. London: Routledge.
- Gudynas, Eduardo. 2018. "Extractivisms. Tendencies and Consequences." In *Reframing Latin American Development*, edited by Ronaldo Munck, and Raúl Delgado Wise, 61–76. Abingdon: Routledge.
- Hargreaves, Tom, Sabine Hielscher, Gill Seyfang, and Adrian Smith. 2013. "Grassroots Innovations in Community Energy: The Role of Intermediaries in Niche Development." *Global Environmental Change* 23: 868–880. doi:10.1016/j.gloenvcha.2013.02.008.
- Heyen, Dirk Arne. 2017. *Governance of Exnovation: Phasing Out Non-Sustainable Structures*. Oeko-Institut Working Paper 2/2017. Freiburg: Oeko-Institut.
- Heyen, Dirk Arne, Lukas Hermwille, and Timon Wehnert. 2017. "Out of the Comfort Zone! Governing the Exnovation of Unsustainable Technologies and Practices." *GAIA – Ecological Perspectives for Science and Society* 26 (4): 326–331. doi:10.14512/gaia.26.4.9.
- Howaldt, Jürgen, and Michael Schwarz. 2017. "Die Mechanismen transformativen Wandels erfassen: Plädoyer für ein praxistheoretisches Konzept sozialer Innovationen." *GAIA – Ecological Perspectives for Science and Society* 26 (3): 239–244. doi:10.14512/gaia.26.3.6.
- IPCC, 2014. "Summary for Policymakers." In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by Ottmar Edenhofer, O, Ramón Pichs-Madruga, Youba Sokona, Ellie Farahani, Susanne Kadner, Kristin Seyboth, Anna Adler, et al., 1–30. Cambridge: Cambridge University Press.
- Jaeger-Erben, Melanie, René John, and Jana Rückert-John. 2017. "Soziale Innovation: Verheißung Oder Verführung?" *GALIA – Ecological Perspectives for Science and Society* 26 (3): 245–248. doi:10.14512/gaia.26.3.7.
- Jessop, Bob, Frank Moulaert, Lars Hulgård, and Abdelillah Hamdouch. 2013. "Social Innovation Research: A New Stage in Innovation Analysis?" In *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research*, edited by Frank Moulaert, Diana MacCallum, Abid Mehmood, and Abdelillah Hamdouch, 110–130. Cheltenham: Edward Elgar.
- Kallis, Giorgos. 2018. *Degrowth*. Newcastle upon Tyne: Agenda Publishing.
- Kallis, Giorgos, Vasilis Kostakis, Steffen Lange, Barbara Muraca, Susan Paulson, and Matthias Schmelzer. 2018. "Research on Degrowth." *Annual Review of Environment and Resources* 43 (1): 291–316. doi:10.1146/annurev-environ-102017-025941.
- Kimberly, John R. 1981. "Managerial Innovation." In *Handbook of Organizational Design*, edited by Paul C. Nystrom, and William H. Starbuck, 84–104. Oxford: Oxford University Press.
- Kivimaa, Paula, and Florian Kern. 2016. "Creative Destruction or Mere Niche Support? Innovation Policy Mixes for Sustainability Transitions." *Research Policy* 45 (1): 205–217. doi:10.1016/j.respol.2015.09.008.
- Kropp, Cordula. 2015. "Exnovation – Nachhaltige Innovationen als Prozesse der Abschaffung." In *Innovation – Exnovation: Über Prozesse des Abschaffens und Erneuerns in der*

- Nachhaltigkeitstransformation*, edited by Annika Arnold, Martin David, Gerolf Hanke, and Marco Sonnberger, 13–34. Marburg: Metropolis.
- Lorek, Sylvia. 2015. “Dematerialization.” In *Degrowth. A Vocabulary for a New Era*, edited by Giacomo D’Alisa, Federico Demaria, and Giorgos Kallis, 83–86. Abingdon: Routledge.
- Marques, Pedro, Kevin Morgan, and Randal Richardson. 2018. “Social Innovation in Question: The Theoretical and Practical Implications of a Contested Concept.” *Environment and Planning C: Politics and Space* 36 (3): 496–512. doi:10.1177/2399654417717986.
- Martinez-Alier, Joan, Isabelle Anguelovski, Patrick Bond, Daniela Del Bene, Federico Demaria, Julien-Francois Gerber, Lucie Greyl, et al. 2014. “Between Activism and Science: Grassroots Concepts for Sustainability Coined by Environmental Justice Organizations.” *Journal of Political Ecology* 21 (1): 19–60. doi:10.2458/v21i1.21124.
- Moulaert, Frank, Diana MacCallum, and Jean Hillier. 2013. “Social Innovation: Intuition, Precept, Concept, Theory and Practice.” In *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research*, edited by Frank Moulaert, Diana MacCallum, Abid Mehmood, and Abdelillah Hamdouch, 13–24. Cheltenham: Edward Elgar.
- Moulaert, Frank, Diana MacCallum, Abid Mehmood, and Abdelillah Hamdouch. 2013. “General Introduction: The Return of Social Innovation as a Scientific Concept and a Social Practice.” In *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research*, edited by Frank Moulaert, Diana MacCallum, Abid Mehmood, and Abdelillah Hamdouch, 1–6. Cheltenham: Edward Elgar.
- Mulgan, Geoff, Simon Tucker, Rushanara Ali, and Ben Sanders. 2007. “Social Innovation: What It Is, Why It Matters and How It Can Be Accelerated.” *Skoll Centre for Social Entrepreneurship*. URL: eureka.sbs.ox.ac.uk/id/eprint/761.
- Nirmal, Padini, and Dianne Rocheleau. 2019. “Decolonizing Degrowth in the Post-Development Convergence. Questions, Experiences, and Proposals from Two Indigenous Territories.” *Environment and Planning E: Nature and Space* 2 (3): 465–492.
- Pellicer-Sifres, Victoria, Sergio Belda-Miquel, Aurora López-Fogués, and Alejandra Boni Aristizábal. 2017. “Grassroots Social Innovation for Human Development: An Analysis of Alternative Food Networks in the City of Valencia (Spain).” *Journal of Human Development and Capabilities* 18 (2): 258–274. doi:10.1080/19452829.2016.1270916.
- Pol, Eduardo, and Simon Ville. 2009. “Social Innovation: Buzz Word or Enduring Term?” *The Journal of Socio-Economics* 38 (6): 878–885.
- Rosa, Hartmut. 2016. *Resonanz: Eine Soziologie der Weltbeziehung*. Berlin: Suhrkamp.
- Rosa, Hartmut, Klaus Dörre, and Stephan Lessenich. 2017. “Appropriation, Activation and Acceleration: The Escalatory Logics of Capitalist Modernity and the Crises of Dynamic Stabilization.” *Theory, Culture & Society* 34 (1): 53–73. doi:10.1177/0263276416657600.
- Secretariat of the Convention on Biological Diversity. 2014. *Global Biodiversity Outlook 4: A Mid-Term Assessment of Progress Towards the Implementation of the Strategic Plan for Biodiversity 2011-2020*. Montreal: Secretariat for the Convention on Biological Diversity.
- Seyfang, Gill, and Adrian Smith. 2007. “Grassroots Innovations for Sustainable Development: Towards a New Research and Policy Agenda.” *Environmental Politics* 16 (4): 584–603.
- Smerecnik, Karl R., and Valerie R. Renegar. 2010. “Capitalistic Agency: The Rhetoric of BP’s Helios Power Campaign.” *Environmental Communication: A Journal of Nature and Culture* 4 (2): 152–171. doi:10.1080/17524031003760879.
- Smith, Adrian, Mariano Fressoli, and Hernan Thomas. 2014. “Grassroots Innovation Movements: Challenges and Contributions.” *Journal of Cleaner Production* 63: 114–124. doi:10.1016/j.jclepro.2012.12.025.

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