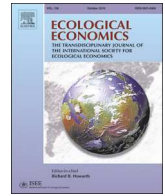




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Ecological economics and degrowth: Proposing a future research agenda from the margins



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ABSTRACT

Research by ecological economists on degrowth is a flourishing field. Existing research has focused on limits to (green) growth and on economic alternatives for prospering without growth. Future research, we argue here, should pay more attention to, and be written, from the “margins” – that is from the point of view of those marginalized in the growth economy. We conduct a comprehensive systematic review of the prevalent themes in the existing literature on the ecological economics of degrowth, and its engagements with North-South relations and gender issues. The analysis identifies seven research areas where ecological economics can better integrate these matters, namely: the study of post-growth policies for the Global South; the unequal exchanges that sustain an imperial mode of living; the deconstruction of ecological economic concepts that reproduce problematic Western or gendered assumptions; the study of the clash of metabolisms in peripheries of the Global South; the metabolism of care-work in growth economies; the leading role of women in ecological distribution conflicts, and the reproduction of gender inequalities in alternative post-growth spaces. We propose that ecological economics should welcome more contributions from critical feminist scholarship and scholars from the Global South.

1. Introduction

Ecological Economics (EE) and Degrowth are both relatively new research paradigms which share origins and common paths (Röpke, 2004; Weiss and Cattaneo, 2017). EE can be defined as the pre-analytic vision of the economy as a physical system embedded in the finite, complex planetary ecosystem with the explicitly normative goals of achieving ecological sustainability and just distribution (Daly, 2013). EE developed as an interdisciplinary field for understanding and managing the connections between the economy, ecosystems and the social structures that sustain human well-being (Zografos and Howarth, 2010). A social strand of EE research, however, has developed a more critical, political-economic approach which emphasises distributional, institutional and power issues (Kallis et al., 2009; Martínez-Alier, 2015; Spash, 2011). This social EE has more recently encountered the idea of degrowth.

Degrowth was born as a proposal for radical change, and is seen by its advocates as an explicit attempt to re-politicize the environmental question (D’Alisa et al., 2015; Kallis et al., 2012; Martínez-Alier et al., 2010). Degrowth emerged as an activist slogan in the 2000s, first in

France and then the rest of Europe, branching into a transdisciplinary academic paradigm, largely due to the biennial international conferences since 2008 (Demaria et al., 2013; Kallis et al., 2018; Sekulova et al., 2013). The slogan itself can be traced back to the title in French *Demain la décroissance: entropie-écologie-économie (Tomorrow’s Degrowth: Entropy-Ecology-Economy)*, a translated collection of essays of Georgescu-Roegen (1979) edited by Jacques Grinevald and Ivo Rens (Demaria et al., 2013). Both Degrowth and EE recognize the need to limit the scale of the economy within planetary boundaries and understand the economy as fundamentally embedded in social and ecological systems.

However, the case against growth in Degrowth literature rests not only on ecological limits, but also self-limitation and voluntary simplicity, equality, global social justice and an end to the exploitative relations of capitalism (Kallis et al., 2018). In recent years, a research agenda on degrowth has emerged within EE (Kallis et al., 2012). The agenda has made important contributions to understanding the limits of green growth and exploring alternative economic policies and grass-roots arrangements for living without growth (Kallis et al., 2018).

The objective of this article is to document gaps in this literature

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and propose directions to fertile areas for further research. The intention is to cultivate a research agenda ‘from the margins’ – that is from the point of view of groups exploited within the growth economy. The article focuses, in particular, on communities and people in the Global South; the unequal exchanges between North and South; and unequal gender relations in production and reproduction.

As this study demonstrates, both within Degrowth and EE literatures there is a lot of lip service paid to the need to address global injustices and to relate concepts such as degrowth or the steady-state to the Global South. Furthermore, there is a need to pay more attention to unpaid care work, and the exploitation of women under unfair economic and ecological arrangements. However, few research studies are actually carried out in this regard (Dengler and Seebacher, 2019). In this article, thus, concrete proposals for prospective research on gender and the Global South are outlined.

The paper is structured as follows. Section 2 explains the methods we used for a systematic analysis of the literature, and section 3 provides results by using network diagrams which depict the current state of Degrowth literature within EE, and the treatment of gender and North-South issues within it. Network analysis helps us identify the core themes and narratives in the existing literature. Our analysis confirms that the questions posed by feminist and Southern scholars are still treated lightly within EE. Section 4 reviews qualitatively relevant studies beyond the immediate field of EE of Degrowth and provides seven relevant research areas or topics (four for Global South and three for feminist ecological economics). Section 5 concludes.

2. Methodology

This study is based on a qualitative and in-depth systematic literature review. The method represents a comprehensive approach that allows identifying, interpreting and evaluating available literature (Gibbs, 2004). In this case, three literatures were evaluated: the EE of Degrowth, debates about the Global South within it, and feminist ecological economics (FEE). Fig. 1 illustrates visually the methodological

design.

By using the advanced search tool in the Scopus database (22/6/19), the literatures were identified as follows:

- a)
 - a) “Ecological Economics” AND “Degrowth” AND “Global South”. Using the advanced search tool while limiting literature to the subject area of environmental science (SUBJAREA- ENVI), 314 results were obtained spanning from 2010-2019. Each study was skimmed and Global South discourses were identified in 109 papers, which included synonyms such as “less developed countries”, “oppressed countries”, “South-North”, “indigenous communities”, “periphery”, “migrants”, “ethnic minorities”, “outskirts”, “urban and rural poor”, etc. Only 4 articles within this set addressed gender inequalities. The 109 articles were selected for the analysis spanning the 2010–2019 period (Appendix A).
 - b) “Feminist” AND “Ecological Economics” AND “Gender” and “Women”. This resulted in 3210 articles spanning from 1988-2019. Again, the obtained result was limited to environmental science subarea (SUBJAREA- ENVI) which rendered 395 results. Then, a third criteria was applied to only include critical feminist approaches, as considered to be more closely related with the Degrowth perspective. The aim of critical feminist approaches is to explicitly deconstruct economic relations in terms of power domination and privilege, focusing on the social construction of exploited environments, women, and workers/peasants (class) (MacGregor, 2017; Perkins, 1997). In total, 108 articles were selected spanning the 2010–2019 period (Appendix B).

The analysis included only articles, conference papers, and book chapters available in English, excluded duplicate articles as well as articles that after reading were found to be addressing women and nature, but with no links to broadly-defined economic issues.

The 217 articles were imported into the qualitative analysis

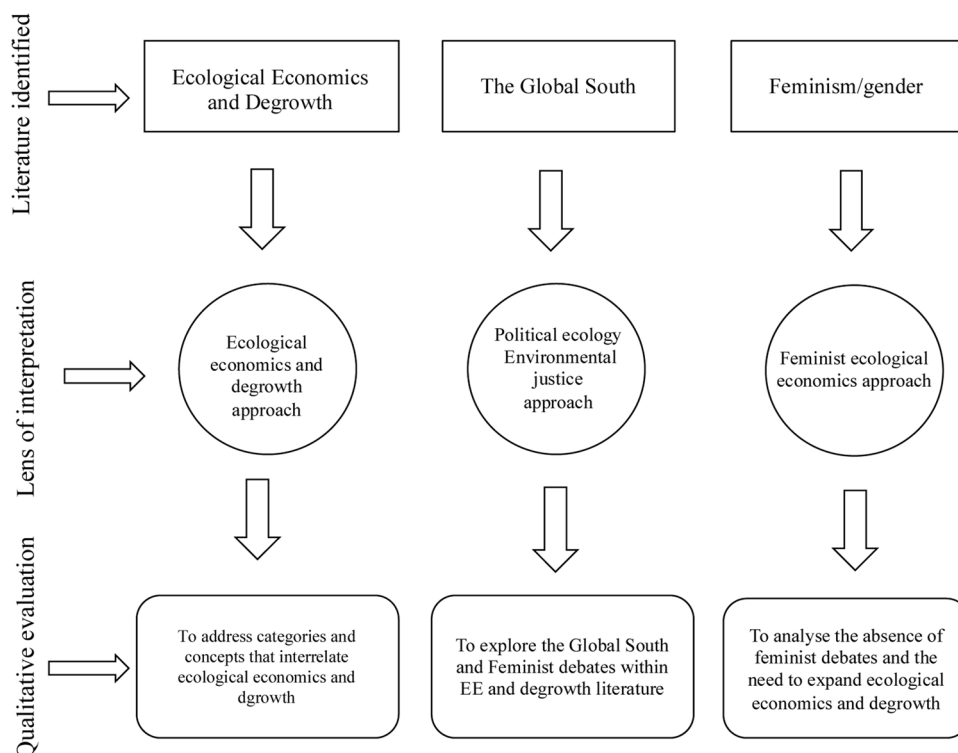


Fig. 1. Methodological review approach for identifying, interpreting and evaluating literature on Ecological Economics and Degrowth, Global South, and feminism/gender/women for future research agenda.

Table 1
Number of codes and frequency of their connections.

General categories (parent nodes)	N of subcategories (child nodes)	N of frequency of co-occurrence between i) general categories and subcategories; ii) between different subcategories
Ecological Economics and Degrowth and Global South	147	2929
Feminist Ecological Economics	165	5813

software NVivo (QSR, version 11.0) where categories of interest were coded. Following Siccama and Penna (2008) the coding for each category was structured hierarchically. The general codes (so-called “parent nodes”) that were at the top of the hierarchy include core search terms: “Ecological economics, Degrowth and Global South”, “Feminist Ecological Economics” (Table 1).

Each article was assigned one or more of the core search terms. Different terms and concepts as subcategories (so-called “child nodes”) were coded paragraph by paragraph. The choice of terms and concepts was guided by issues affecting different geographical and social groups in the growth economy.

For example, a paper on the economics of degrowth (Ref. 1) was examined, in which the terms “exploitation” and “debt” appeared in a paragraph. The terms were classified under the parent node “ecological economics, degrowth”. The software registered the subcategories “exploitation” and “debt” below the parent node (Table 1). If the term “debt” appeared three times within the paper, it was coded three times. The software counted then one connection between “exploitation” and ecological economics of degrowth and three connections between “debt” and ecological economics of degrowth (ref 1; “exploitation” = 1; “debt” = 3).

Whether there was a connection between subcategories “debt” and “exploitation” depended on whether the two terms appeared “together” in the same paragraph; where the author of the reference makes an argument between the two terms. If the terms appeared “together” more than once in a paper, then there was more than one connection between them (Ref 1; “debt” X “exploitation” = 7); but there could also be zero connections (e.g. Ref 2; “debt” X “exploitation” = 0). The frequency of connections between terms (codes) gave a sense of whether they were related or not in the literature.

The connection of terms was performed by using a descriptive statistics which allowed characterization of the selected data based on its attributes (as in: Siccama and Penna, 2008). Within descriptive statistics, frequency of co-occurrence showed how often attributes (terms) appeared “together”. This allowed deciphering patterns of interaction between terms in the literature, helping reconstruct broader narratives in a more objective, and measurable way. For the representation of the frequency of co-occurrences between terms (attributes/codes), networks were designed in Gephi software (version 0.9.2). A complete methodological outline is presented in Fig. 2.

3. Network analysis of the literature

3.1. Ecological economics of degrowth: studies on Global South and gender

In this section we assess the current state of the peer-reviewed literature on the ecological economics of degrowth and how it fares in relation to issues connected to the Global South and gender.

Fig. 3 shows the geographical distribution of studies on the ecological economics of degrowth and the Global South (109 in total). Each paper was examined separately and the country or countries where the research was undertaken was registered. For conceptual papers with no empirical studies, “no country” was assigned.

The map shows that most of the empirical studies focus on India, China, and countries of South East Asia. Studies on Latin America followed in number of publications with most studies on Ecuador,

Colombia and Mexico. Studies in Brazil, Argentina and Peru were covered to a lesser extent. In the South of Europe, historically considered as a relatively “less developed” region within the continent, we found ongoing debates in Spain and Italy. “South within the North” debates were also identified in Germany and France. As the map furthermore shows, there was hardly any research focusing on African countries, a continent with tremendous marginalisation and oppression. Exceptions were South Africa, Nigeria, and Cameroon.

By further analyzing this same set of 109 articles other relevant patterns were found. Fig. 4 shows that studies on the EE of Degrowth addressing the specific issues of the Global South have been increasing since 2010. In contrast, issues related to feminisms, gender and women, were still poorly considered, as only 4 articles out of the 109 publications engaged with these matters. This illustrates that the study of gender relations is still a marginal topic within the literature on the Ecological Economics of Degrowth.

When analysing feminist scholarship separately, another set of 108 publications emerged. Fig. 5 shows that many of the studies on gender inequalities were conducted in the United States and Canada. Studies on inequalities and struggles of women in India, Mexico, Brazil, Chile, Bolivia and China followed in number of publications. In the case of Africa, most studies were found in Kenya, Ghana, South Africa and Uganda. Yet, a large area of Africa remains under-investigated. Furthermore, hardly any work was found on issues of gender inequalities in Eastern Europe. In addition to this, Fig. 6 shows there was an increase in critical feminist scholarship literature in 2018, according to the number of publications per year.

3.2. Ecological economics of degrowth: Global South and gender narratives

In this section, an overview and the main narratives contained in the literature on the EE of Degrowth is presented. In Fig. 7 the size of a circle indicates the frequency of appearance of the term at stake, and the width of the connecting lines indicates the frequency of connections between different themes or concepts – meaning the rate at which themes and concepts appear together in the selected papers. Proximity between themes indicates that they are more frequently associated. Density of the connecting lines within the network indicates higher frequency of debates within the literature.

The most prominent themes are the central nodes, in this literature *limits to economic growth; environmental impact, policy institutions and law; global economic growth* as well as *distribution conflicts*. These are the themes most interrelated with the rest of the themes. The closeness of nodes to the centre signify their relevance in the debate; less frequent discussions are represented by nodes situated in the periphery of the network. Some of the smaller size themes are situated closer to the central node. This is because their frequency of connection with the central themes within the reviewed literature is high (e.g. crisis and transition).

From the network diagrams and informed by our reading of the literature, we can start constructing some narratives. According to Fig. 7., the literature on EE and degrowth is focussed on *limits to growth* and *energy* questioning *global economic growth*, due to its huge dependency on *natural resources* and the *environmental impacts* it has, and it sees such growth as part of current *capitalistic and neo-liberal* systems. We further see that *policies, institutions and laws for sustainability* as well

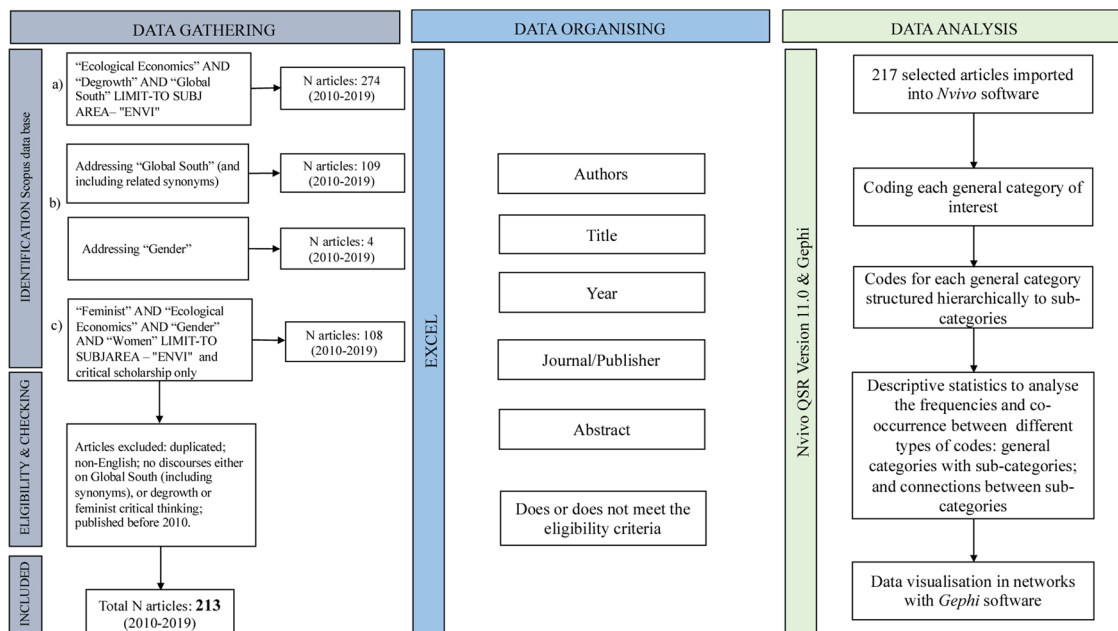


Fig. 2. Methodological outline: data gathering, organising, and analysis.

as *alternative economy and practices* are a main focus of research in the literature. These code themes are also frequently related to notions of *reduced production and reduced consumption and working hours for transformative development* and *increasing welfare and well-being*, which is coherent with the approach of ecological economists working on degrowth.

To a lesser extent, articles question development as an ideology imposed by current capitalist and neoliberalist economic system especially by the Global North; as well as the need for politicization and politics of transformative development, physical and ecological limits, and inequalities as a consequence of global economic growth. Discussions of privilege, valuation languages, class, gender, history and culture are important, but relatively less addressed within the reviewed literature. Although less covered, gender issues within the EE of degrowth literature relate to arguments such as segregation, work, and

place, territory and space.

Fig. 7 furthermore depicts interrelated discourses within the subset of articles on the ecological economics of degrowth that cover the Global South. Closest to the Global South theme are the most recurrent concepts: *global economic growth, inequalities and resistance to these situations*. The analysis furthermore confirms that the degrowth discourse about the Global South is still at an early stage, focussed on making the point that the material extraction (mostly for *energy production*) that fuels global economic growth has negative social and environmental impacts in the countries of the South.

A second category includes terms that characterize the state of North-South dynamics such as *power relation, marginalization, extraction, exploitation, expansion, development and capitalism*, pointing to less studied phenomena that ecological economists might want to explore further. Then, *justice* and social-environmental *conflicts* in terms of

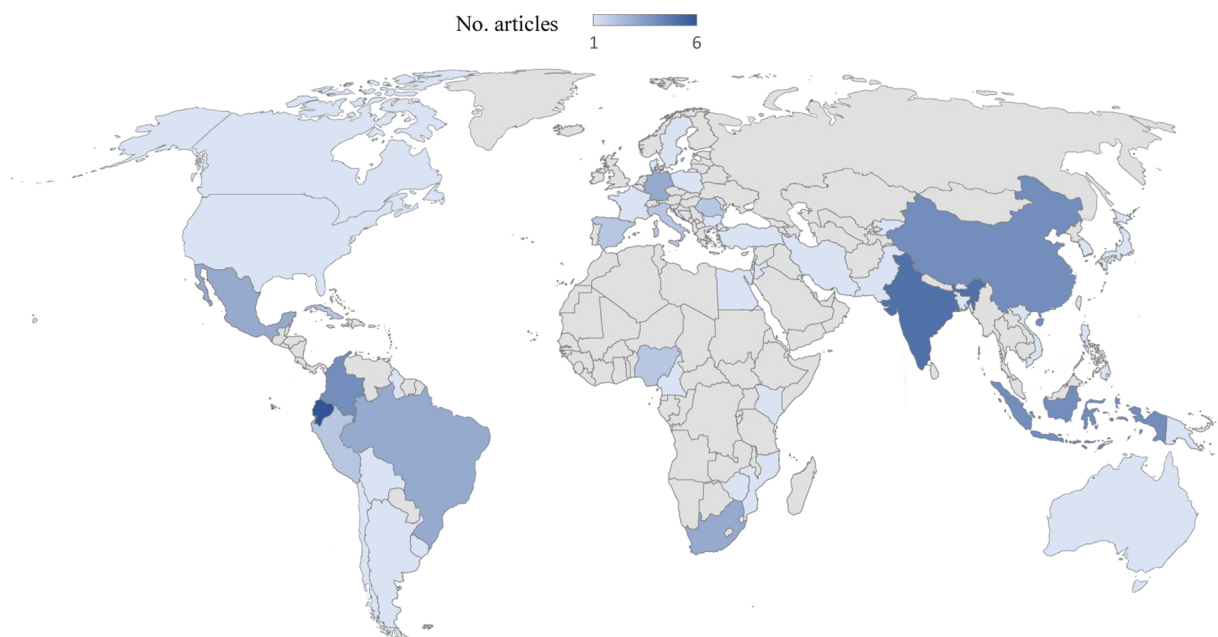


Fig. 3. Number of articles on EE, Degrowth, and the Global South based on the countries of research.

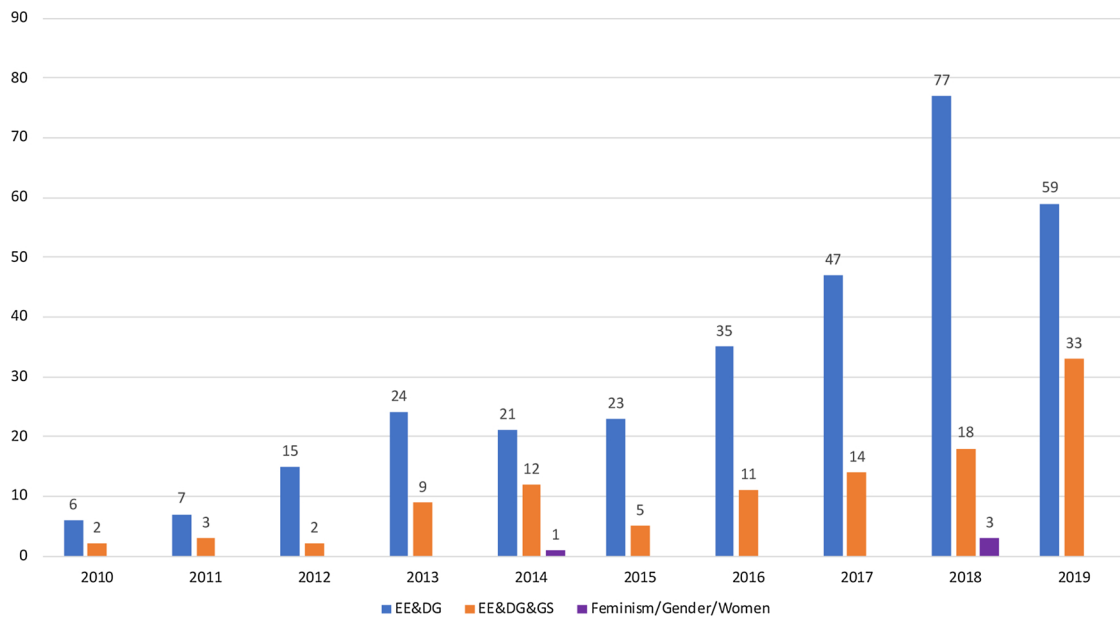


Fig. 4. Number of articles on Ecological Economics and Degrowth studied per year, of which number of articles that address the Global South and feminism/gender/women perspectives that are included in the analysis (109 studies in total).

environmental *distribution issues* and *El Buen Vivir* are identified frequently as an alternative to natural resource *extraction, exploitation and expansion*.

This is followed by the third category of concepts that refer to: i) dynamics such as *power of knowledge, history, westernization, production, class and race*, ii) *cultural differences, debt, livelihoods and survival*, iii) possible paths to transform unjust relations such as *transformative development, sustainability, alternative economies and practices; and reduced consumption* as either a *choice* or a *condition (poverty)*.

The limits to growth argument remains central in this literature, pointing to the fact that arguments about global injustice are framed in relation to environmental limits of *global economic growth*. The analysis finds a common narrative in the degrowth literature, whereby global economic growth is facing limits, and therefore the North should limit itself so that the South has more space to grow. It is also observed how *culture, identity and traditions* still remain poorly addressed within the

EE literature, as well as *history, coloniality, and ecological debt*.

For the last part of the analysis (Fig. 8) we look further into the themes that feature prominently in the 108 studies of feminist EE. The main debates in feminist EE are around the relationship of *women and nature and environment*, found as one would expect at the centre of the network. Proximity to the central nodes demonstrates how contributions touch upon the fact that *gender issues* related to *care and reproduction* work carried out by *women* are *invisible and ignored* and this is further related to *struggle, resistance and empowerment through feminist movements*.

Global South debates in the feminist EE literature explain issues of *marginalisation and inequalities* as a result of development policies that result in further exploitation and feed poverty, rather than wealth and well-being. Further, North-South relations are described through *power relations, technocracy* or green “solutions” in environmental management, *dispossessions and injustices*. The literature also points to exclusion

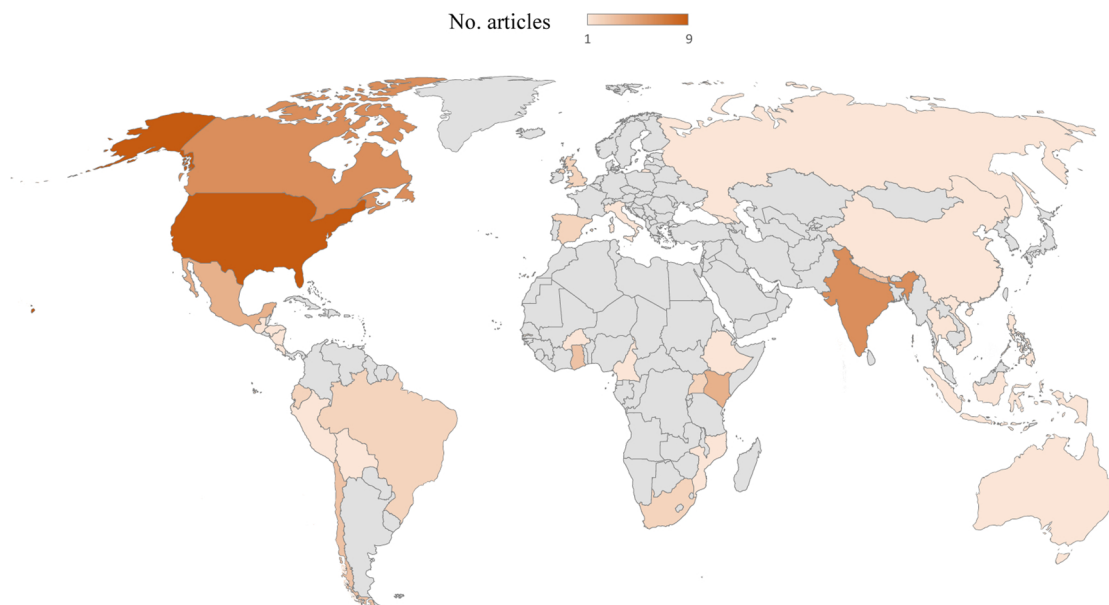


Fig. 5. Number of articles on critical feminist scholarship based on the countries of research.

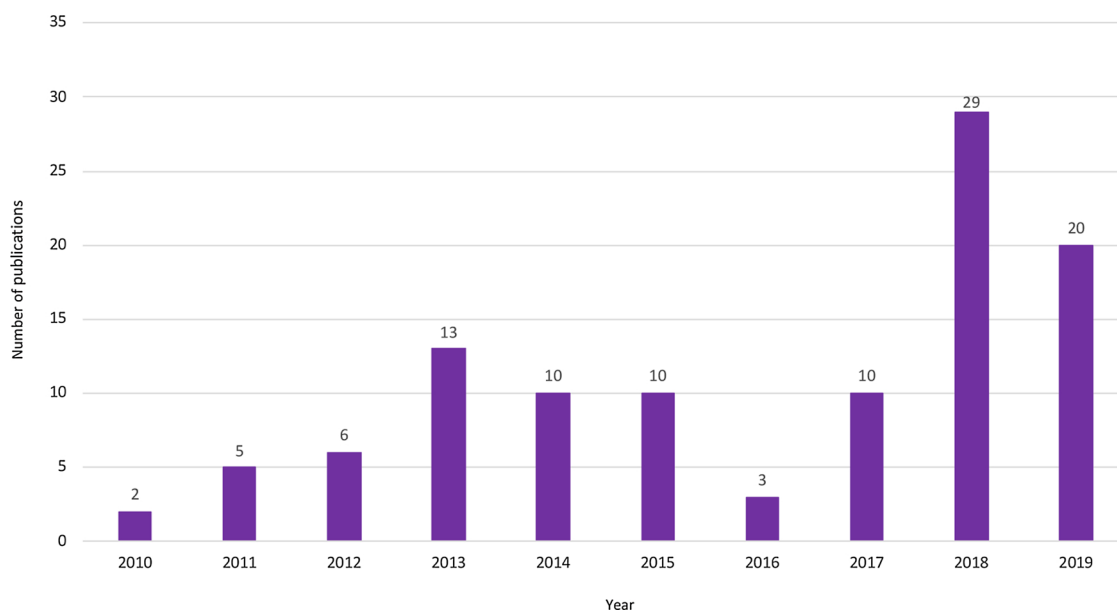


Fig. 6. Number of publications per year on critical feminist scholarship included in the analysis (108 studies in total).

of women from environmental decision-making; arguing how *sustainability* should be based on a *participation* of all members of the *society*, taking into account their *livelihoods and existence*.

Furthermore, studies link social degradation and environmental degradation with the struggles, resistances and empowerment of women against oppressive structures for their livelihoods and existence, involving often the community in its entirety. Feminist debates in Ecological Economics engage with unpaid labour, the importance of different cultures and identities, especially in racialised settings; and divisions along the lines of class (rural and indigenous communities) and the problems with dualisms, that must be deconstructed in the pursuit of democracy and integrity.

The high number of theme codes (Fig. 8) indicates a fragmented literature with many small debates, many of them yet to be taken up, such as problematic discourses about *biological differences* and *inferiority* between genders. The periphery of the network indicates the least explored topics, which are in no way unimportant, with a possible discourse around *growth-oriented exploitation* resulting in *commodification and injustice* due to *patriarchal power relations and sexism, racism, violence, war, genocide, and displacements*. The issue of *class*, (along with that of *race*) is present in this feminist literature pointing to an intersectional literature, though less represented within the broader EE of degrowth literature.

4. Discussion and prospects for further research

There is an increasing interest in expanding *current EE of Degrowth research agenda* (Kallis et al., 2018). Yet, as this and previous findings suggest, Global South and feminist approaches are far from studied thoroughly (Dengler and Seebacher, 2019). This article complements previous studies with a more qualitative and extended approach of the ecological economics of degrowth literature, by analysing and considering broader scholarships that are relevant to the study of degrowth vis-à-vis the Global South and gender relations. The following section characterizes some of the key points developed by the existing literature presented in section 3 and then identifies new relevant themes that should be explored further.

4.1. Ecological economics of degrowth and the global south: emerging debates

Section 3 has shown that current scholarship on the ecological economics of degrowth continues to dabble in well-established narratives on the Global South and gender issues. These include preliminary links between global economic growth and resource extraction in the South, limits to growth and the need for North-South redistribution, exploitation of the unpaid care work of women, and links between women and environmental justice mobilizations. As observed, these matters are certainly relevant and require further conceptualization and geographical coverage. In parallel, however, this article argues that other peripheral themes and inter-relations need to be more systematically explored. This includes the interactions between race, class, and gender; violence, control, emotions and feelings.

Ongoing scholar debates prove an increasing interest in exploring possible alliances, tensions and contradictions between degrowth and other intellectual, social and political movements questioning capitalism and modernity from the lens of the Global South (Rangan and Sivaramakrishnan, 2001; Tortosa, 2016). Examples include dialogues and tensions between degrowth and environmental justice (Martinez-Alier, 2014; Martinez-Alier et al., 2016; Rodríguez-Labajos et al., 2019); degrowth and neextractivism (Svampa, 2015); degrowth and “*El Buen Vivir*” (Acosta, 2015; Escobar, 2015; Gudynas, 2014, 2009), or degrowth and the pluriverse with a focus on alternative cultural, economic, social, political and ecological visions and practices (Demaria and Kothari, 2017).

A new agenda for EE could certainly inform and benefit from the current political momentum, where dialogue between degrowth and intellectual and social movements from the Global South is increasing (Martinez-Alier, 2014; Martinez-Alier et al., 2016). As this study argues, a new research agenda should address colonial differences, geopolitics of knowledge, heteropatriarchy and relations of exploitation in the modern capitalist world-system (Grosfoguel, 2011, 2002). This new agenda “*from the margins*” should thus include different theoretical and epistemological traditions (see: De Sousa Santos, 2016; Zibechi, 2006) that go beyond Eurocentric liberal discourses, and engage with the pluriverse of alternatives (Demaria and Kothari, 2017).

While 3 our review of the literature only focused on the most recurrent subjects of study for the Global South, a renewed agenda on the ecological economics of degrowth necessarily involves further

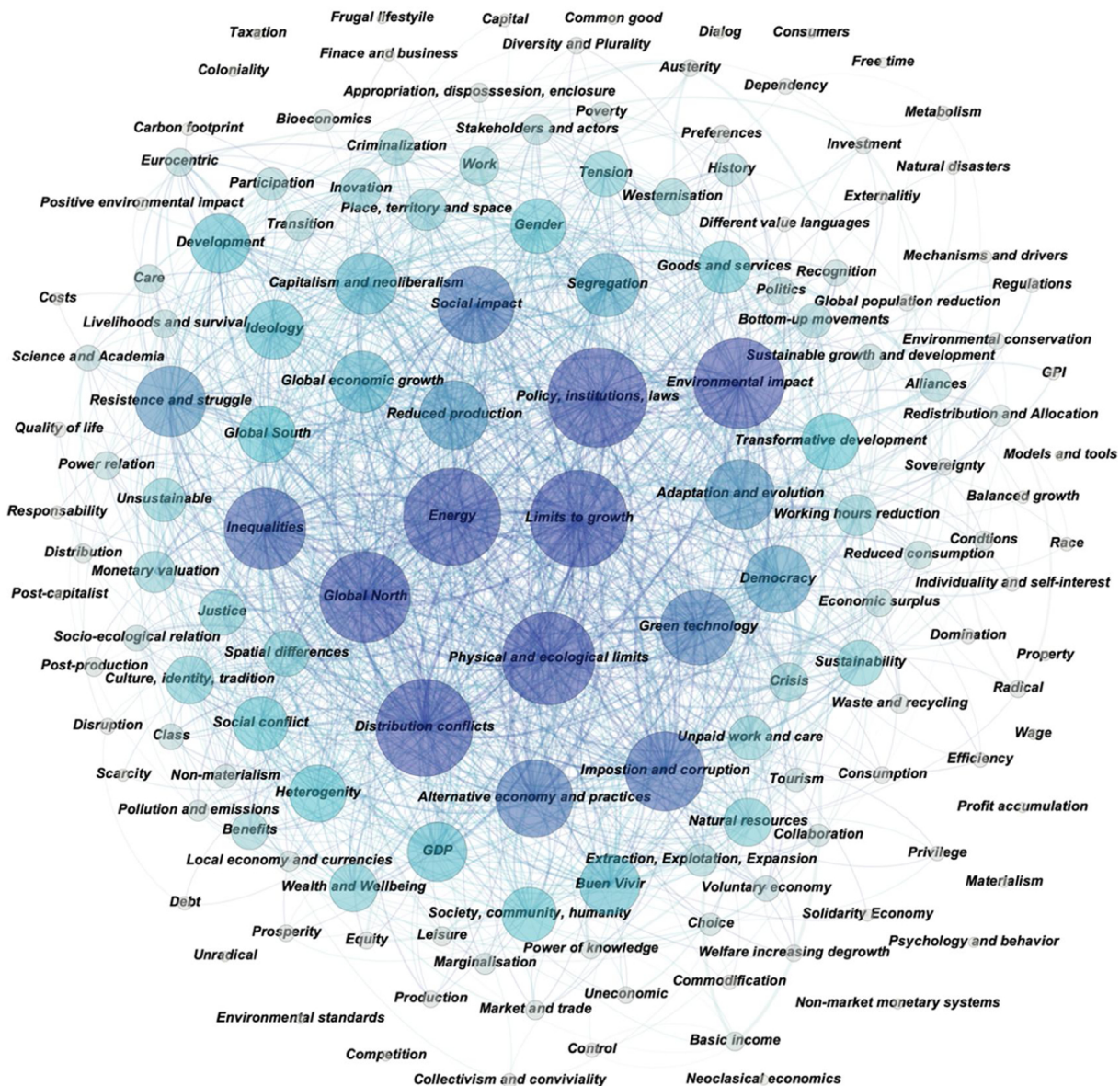


Fig. 7. Themes and connections in the ecological economics of degrowth. The central, the bigger, and the darker the theme circle, the higher is its frequency of the debate within the literature. The closer the circles, the more frequent are their interrelations. The closer the circles, the more frequent are their interrelations. Density and centrality of themes' connection lines indicate their higher frequency of debate within the literature.

engagements with **perspectives from the Global South**. Going beyond Eurocentric approaches has been an ambition present in the history and evolution of Ecological Economics. Contributions from Global South scholars and activists have played a key role in developing some research lines of the field, including theories of ecological unequal exchange, and plural valuations. Such intellectual endeavours have either emerged or been inspired by social movements, which ultimately give force to many traditions on critical studies in the Global South (Svampa, 2016).

The notion of "ecological debt", has its roots in Latin American civil society organizations during the 1990s, and since then has largely influenced the EE discipline (Martínez-Alier, 2002a, 2002b). These include research on quantifying the ecological debt (Matthews, 2016; Neumayer, 2000; Srinivasan et al., 2008) as well as discussion on its content, potential incidence and possible pitfalls (Goeminne and Paredis, 2010; Martínez-Alier, 2002b). Of particular relevance are those works lead by Global South researchers on specific case studies of ecological debt, such as Colombia (Borrero Navia, 1994), India (Khatua and Willam, 2006), Africa (Ngosso, 2016) and Latin America in general

(Azamar-Alonso and Carrillo-González, 2017). Regional societies for EE should play a key role in promoting further integration of cultural diversity, plurality, integration for decolonial thinking, and activist-academic collaborations (as in Demmer and Hummel, 2017; Grosfoguel, 2011).

Degrowth researchers have always been clear on claiming multiple ecological and social sources for the concept (Bayon et al., 2010; Demaria et al., 2013; Flipo, 2007). The literature on degrowth, however, remains largely Western (Weiss and Cattaneo, 2017). Normative visions such as democracy, justice, anti-utilitarianism, and wellbeing have intellectual foundations and alternative versions in the Global South (Gerber and Raina, 2018). Following the principle of "deconstructing the social imaginary" (Latouche, 2009), a decolonial theory of degrowth must acknowledge that many post-growth ideas have non-Western roots, and voices of academics and activists from the Global South are as crucial as those critical streams of thought in the North.

For example, Mahatma Gandhi, one of the foremost leaders of the Indian freedom struggle, known for leading a non-violent civil disobedience movement, followed a philosophy of "simple living, high

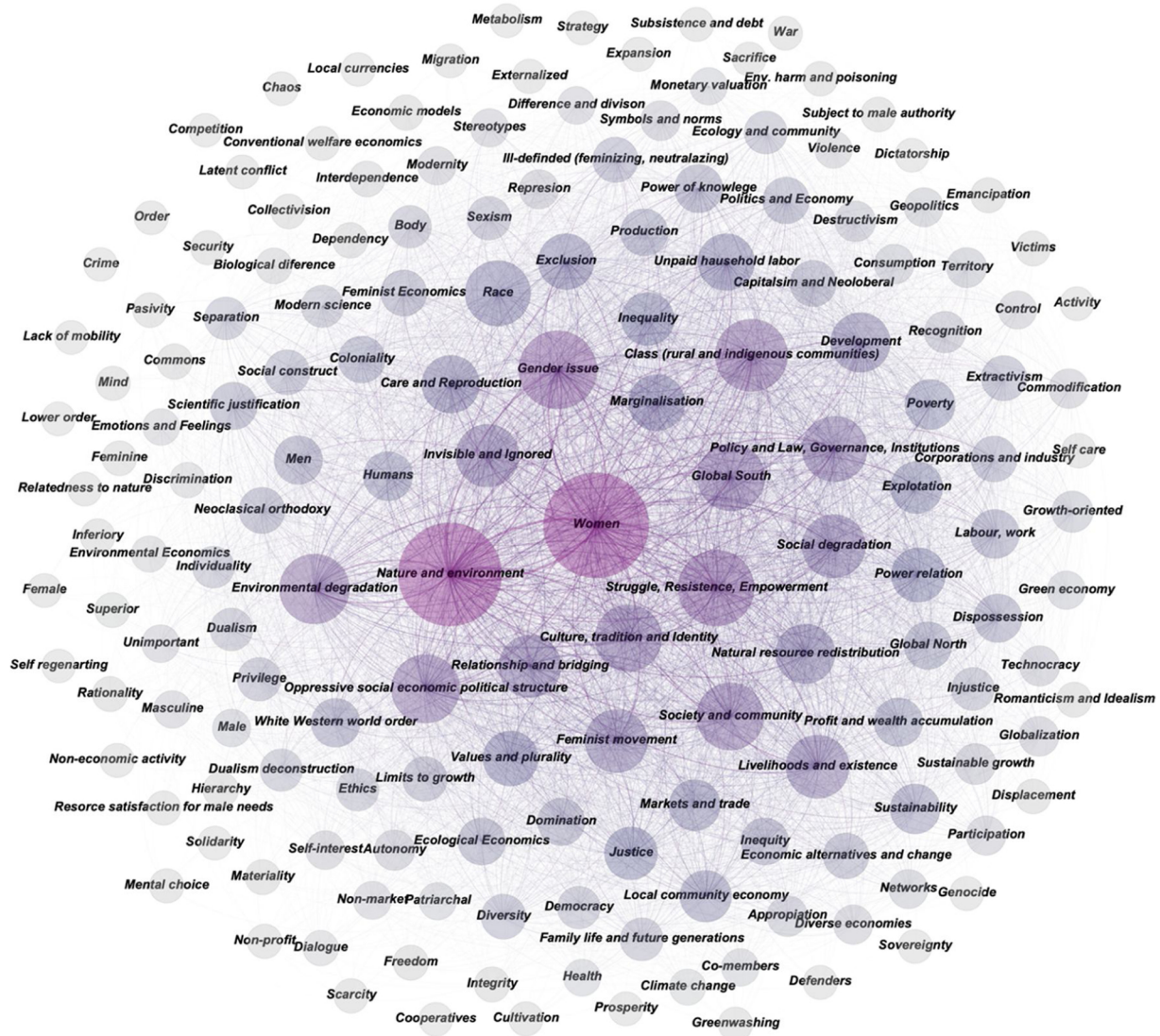


Fig. 8. Interrelated views on Feminist Ecological Economics. The central, the bigger, and the darker the theme circle, the higher is its frequency of the debate within the literature. The closer the circles, the more frequent are their interrelations. Density and centrality of themes' connection lines indicate their higher frequency of debate within the literature.

thinking". Gandhi, along with his chief economic advisor, J. C. Kumarappa believed in a decentralized village economy, calling it the "economy of permanence" (Govindu and Malghan, 2016, 2005). They argued that industrial society would destroy the earth and sought to rebuild the rural economy on ecological lines by working on water conservation, recycling, the replacement of chemical fertilizers by organic manure, and renewal of craft traditions. These ideas resonate strongly with what degrowth propagates.

In a similar vein, Rabindranath Tagore, one of Bengal's foremost poet, writer and philosopher wrote in 1924 that "It is food which nourishes, not money; it is the fullness of life which makes one happy, not fullness of purse. Multiplying material wealth alone intensifies the inequality between those who are privileged and those who are dispossessed". These lines exemplify some of the rich philosophical traditions present in the Global South which degrowth research must acknowledge and learn from.

Indigenous and grassroots movements in Latin America with long traditions on autonomy and "El Buen Vivir" are not just an inspiration for Degrowth scholarship and activism of the North, but most importantly, a source of radical de-colonial thinking in their own right. This goes hand in hand with the important tradition on critiques to development from Latin American scholars (Escobar, 2015; Esteva,

2010; Gudynas and Acosta, 2011) as well as works contributing to debates unfolding within the degrowth community, but with their own narratives and specificities; including key topics such as municipalization (Olmedo, 2010); feminism (Lozano and Lopez, 2013); autonomy (Esteva, 2018) and communality (Guerrero-Osorio, 2018).

While all these contributions certainly challenge the growth-based development model that sustains modern economic relations, not all of these perspectives identify themselves as part of a "degrowth theory". While the latter has been mostly articulated in Western Europe, critical economic thinking across the Global South has its own trajectories and identities. As such, a more systematic attempt in Ecological Economics must be made to look at various alternative economic approaches emerging at different geographies: not only in the North and West, but also in the South and East. Acknowledging the plurality of intellectual traditions as well as the commonalities between them (in terms of ethical values and principles) is a key aspect for a new research agenda in this field.

4.1.1. Research topic 1: economic policies in the Global South

Ecological economists have proposed several degrowth-oriented policies (Cosme et al., 2017), however little work has focussed on the

relevance of such policies outside Europe and North America. How can work sharing (reduction of paid working hours) be implemented, for example, in economies that are not fully industrialized? Is there a place for a carbon tax (or dividend) or a basic income in low-income economies? If not, what policies would work in such contexts, and steer these economies to more sustainable, post-growth trajectories?

A recent example can be found in a publication made by the Latin American Societies of Ecological Economics (Weiss, 2017), in which distribution of wealth, reduction of metabolic intensity of regional economies and urban-rural relations are addressed. This research agenda requires engaging further with the work of critical scholars and activists from the Global South. A good number of articles have been published by Latin American scholars aware of the contradictions of recent developmentalist governments, proposing alternative policies for a post-extractivist and “El Buen Vivir” horizon (e.g. Acosta, 2012; Bertinat, 2013). Examples of progressive environmental policies can also be found in studies on African experiences, particularly for the management and distribution of oil revenue (for case studies in Sao Tome and Chad see: Bryan and Hoffman, 2007; Sovacool et al., 2016). How do these policies work, under what conditions may they be implemented, and what could lead to their success?

4.1.2. Research topic 2: economic growth, development and north-south relations

New research should move beyond the rigid redistributive dichotomy of “Degrowth in the North – growth in the South”. Escobar (2015) has noted how such a distinction is problematic in both epistemic and practical terms: first, it overlooks the important intellectual critiques to development and experiences beyond development unfolding in the Global South. Second, it forecloses spaces for dialogue between different eco-civilizational transitions, which are essential for an effective politics of transformation.

Disengaging North and South trajectories also ignores the co-constitution of historical binaries between modernity, development, and underdevelopment; as well as rich and poor (Avila-Calero and Pérez-Rincón, 2018; Esteve, 2010). This dialectic approach stems from Latin-American Marxist theorists (e.g. García Linera, 2012), who have argued that “underdevelopment” and hence “dependency” is not a national, isolated phenomenon, but the result of the unequal relations established with former metropolitan powers and current centers of global markets. Unequal exchange is expressed in financial, material and political terms. It represents, in turn, the basis and core explanation of the origins and development of capitalism in Europe and the United States (Marini, 1972; Cueva, 1998). North and South are thus intricately linked through global flows of money and resources through patterns of unequal exchange and the uneven power relations that derive from them. Rather than thinking of growth in the North and the South as separate choices or phenomena, a new research agenda needs to advance into more integrated, regional and global understandings of economic interdependencies and relations.

There is a valid reasoning behind the idea “degrowth in the North” to let the South mark its own trajectory (e.g. Kerschner, 2010). However, the postulate is problematic when the South appears as a unified entity, with no plurality in terms of socio-political experiences and metabolic configurations. Countries in the Caribbean, Brazil and Mexico; Vietnam, India and China, each and every one of them demand special empirical attention and analysis. A recent study focused on China, for example, has shown that even with the rapid economic growth experienced over the last decades, low-income people will be still locked in continual or even worsened poverty. To speak of “China” can be then misleading when one deals with such a large nation with diverse internal experiences (Xue et al., 2012).

This new research agenda should be willing to question the usefulness, or at least limits, of the very notions of “North” and “South”. While ecological economists have contributed the most in demonstrating the patterns of unequal exchange between economic cores and

peripheries (e.g. Hornborg and Martinez-Alier, 2016), the geographical distinction between North and South is becoming challenging to maintain. Socio-environmental asymmetries are not always so neatly categorized. Some scholars talk now of a “North in the South”, the rise of very rich and a growing middle class in poorer countries, or of “South in the North”, impoverished people in richer countries and sharpening domestic divisions related to class, race and gender inequalities (Acosta, 2015; Escobar, 2015; Gudynas, 2014).

The Global South, thus, should not be understood strictly as a geographical concept, even though the great majority of impoverished or marginalized people live in countries of the Southern hemisphere (de Sousa Santos, 2016). As such, the South is increasingly used as a metaphor for excluded, silenced and marginalized populations that within our current social-economic-political system experience poverty, displacement, environmental pollution and destruction (Escobar, 2015; Gerber and Raina, 2018).

Using this lens of “the South in the North”, our review revealed that there are hardly any publications on Eastern Europe – a periphery of Europe or a region within Europe subjugated by core Western countries in its economic, cultural and environmental terms (de Sousa Santos, 2016; Roncevic, 2002). The exceptions are for example the recent work of Domazet and Ančić (2019) and Velicu (2019) published as a part of the special issue on the potential for a theoretical and political alliance between degrowth and environmental justice (Akbulut et al., 2019). A new generation of work in unequal exchange should refine its scale of analysis and capture the new patterns of exchange and exploitation within the so-called Global North; the emergence of new centres of economic power in the South; and the role of a transnational global elite, present both in the northern and the southern hemispheres, which is moving its capital around the world, dictating the terms of exchange between different places.

The concept of an imperial mode of living (Brand and Wissen, 2018) can be an interesting avenue for ecological economists to explore further, as it shifts attention to centres of accumulation, consumption and the extraction of labour and resources from regional or international peripheries. A rich person in Delhi can exemplify an imperial mode of living as much as a rich person in Britain – a mode sustained by the extraction of resources and the accumulation of ecological debt on the poorer peripheries, workers and environments. This concept is particularly interesting from a degrowth perspective as it links unsustainable, high-throughput modes of living by transnational elites and a global middle class, to patterns of unequal exchange, cost-shifting and environmental degradation in the periphery.

The suggested approach could also interlink further with questions over measures of wealth and development that dominates the assessment of living conditions in “the South”. This includes a deconstruction of widely accepted opinions about the economies of agrarian scale and efficiency, based on the assumption that technological solutions directly provide stable rates of well-being. In the case of Eastern Europe, for example, studies have shown that Romanian villages with big and high-input farms have higher poverty levels in contrast with small-scale traditional farms. The latter not only have less poverty, but also register higher environmental, economic and socio-cultural well-being.

4.1.3. Research topic 3: decolonizing ecological economic concepts

Post-development scholars have deconstructed the assumptions, colonial relations and violence embedded in supposedly neutral, “scientific” metrics such as the World Bank’s poverty indicators, GDP league tables and the like (e.g. Escobar, 2011; McAfee, 1999). These metrics frame alternative, non-Western ways of living as “backward”, posing market-driven growth as the only alternative, serving the interests for Northern economies to expand their markets and access to cheap labour and raw materials (Galeano, 2004). International development programs, thus, sustain colonial relations in the post-colonial era (Escobar, 2011; Esteve, 2010).

Ecological economists should push further their critique of growth-

based development and associated framings of poverty. For example, the concept and metrics of wellbeing (O'Neill et al., 2018), largely a UN and World Bank construct (e.g. McAfee, 1999), presupposes a Western view of development, and has little room for considering alternative, indigenous cosmologies or other diverse ways of living well. This is similar to the prevalent view within ecological economics of seeing ecosystems as providers of services. This notion alienates many of the local people living and working in regions with high bio-cultural diversity (Geijzendorffer et al., 2017). The seemingly innocuous concept of ecosystem services exports with it a whole way of seeing and managing society-nature relations (Kallis et al., 2013). For example, understanding nature only as capital which provides goods and services – is an understanding that is not politically neutral (Hanaček and Rodríguez-Labajos, 2018; Kull et al., 2015).

This calls for research within the EE community following the lead of post-development scholars in documenting how different discourses travel and reveal their untold assumptions and undesired implications. This readiness to address should go as far as including in the critique the very concept of degrowth (Mignolo, 2018). The concept of degrowth creates frictions with environmental justice movements in the Global South which do not necessarily feel comfortable with this framing of their issues or visions. The key points of contention range from claims of it being too anthropocentric and Eurocentric, to non-acknowledgement of the multiple ways of organizing, understanding and discussing issues affecting groups in different parts of the world, to semantic controversies and the use of detached ideas and approaches (Rodríguez-Labajos et al., 2019). Those developing degrowth theory and advocacy have much to learn by studying how the concept travels (or does not travel) to other places of the world. In turn, this can enrich the degrowth concept and “make it travel better”, by recognizing and incorporating in its theoretical corpus ideas that come from scholars from other parts of the world.



4.1.4. Research topic 4: metabolic studies and approaches to transitions

There is an important body of research on the metabolism of advanced industrial systems (e.g. Giampietro et al., 2013). There are also studies on the changing metabolisms of “peripheral” economies in relation to patterns of export-driven growth, and the growth of consumption in the Global North (Gonzalez-Martinez and Schandl, 2008; Pérez-Rincón et al., 2018; Russi et al., 2008; Vallejo, 2010). An interesting development is the linking of this ‘metabolic approach’ to the question of socio-ecological transitions, and changes in socio-metabolic regimes unfolding throughout human history (Haberl et al., 2010). The analytical emphasis on the transition dynamics from agrarian to industrial regimes across the globe has been certainly informative. and is increasing complemented by the interesting questions around transitions towards alternative socio-metabolic configurations today (e.g. Mingorría et al., 2014; Ravera et al., 2014).

The analysis of the contesting metabolisms of traditional communities and mining economies in Congo in the Andes-Amazon based on Georgescu-Roegen’s flow-fund model (Silva-Macher and Farrell, 2014) is an interesting approach that researchers could adopt when studying conflicts between local communities defending their ways of living and the metabolism of the development process. An appreciation of both the environmentalism and the metabolism of the poor (Martinez-Alier, 2015, 2014) has been central for a degrowth and ecological economic research agenda. Metabolic studies can buttress the thesis that often the sustainable systems are subsistence economies, that have low throughput; and not the rich-industrial societies, which despite improvements in efficiency, use much more resources.

4.2. Ecological economics and degrowth engagements with feminist thinking

4.2.1. State of the literature on ecological economics, degrowth and feminism

As the degrowth community seeks to strengthen and radicalise EE, it

is important to incorporate feminist perspectives (Perkins, 2007). Feminist scholarship shows how women lack recognition for their reproductive work. Most women still carry out work in the home; a work that is ‘destined’ to be unwaged. Ostensibly, the purpose of this unwaged work is to reproduce their own families but ultimately it serves to provide the capitalist class with the labour power the economy requires and with a new generation of workers (Federici, 2018a).

From the feminist environmental governance point of view, women’s history of exclusion from public institutions and politics, and the enclosures of rural women from their commons, such as access to domestic fuel and clean water, constrain their effective economic participation. Women also often lead movements against these injustices (Agarwal, 2009; Perkins et al., 2005). Economists tend to underestimate the role of both the environment and the work of women for the sustenance of economic activities. Hence, there is still work to be done to bring feminist and ecological economics closer together (Nelson and Power, 2018).

Feminist theories provide dynamic, inter-disciplinary, community-oriented, and pluralistic approaches (Bauhardt, 2014; Perkins et al., 2005; Spencer et al., 2018). Although both EE and degrowth literatures discuss feminist theories and address the need to incorporate them, both fields still remain gendered in terms of authorship, intellectual history, and content (Dilli et al., 2018; Woolley, 2005).

There is for example very little theoretical or empirical research on the gendered and racial nature of the care economy (Bauhardt, 2014) or the role of women’s reproductive labour, slave labour, migrant labour, labour in the Global South or the work of the unemployed and their contribution to the ecological-economy of capitalism (Federici, 2018b). Feminist scholars have shown how societies have commonly been characterized by the subjugation of women to male authority, exclusion of women from environmental governance (e.g. Agarwal, 2010) both with the family and in the community in general; the objectification of women as a form of property; a gendered and racial division of labour in which women of ethnic minorities are confined to activities such as child-raising, performing personal services for adult males, and specified, usually low-prestige forms of productive labour (Brewer et al., 2002; Power, 2004).

Eco-feminists on the other hand have shown that there is a profound connection between the dismissal of housework, the devaluation of nature, and the idealisation of what is produced by technology and in the market. Alongside Agarwal’s work in India, other contributions have focused on gendered aspects of colonialism (Perkins et al., 2005), land-grabs in Africa and how Nigerian women occupied oil terminals and inspired global protests against war and oil companies (Turner and Brownhill, 2004); or women’s local grassroots organizing around environmental issues at the global level (Shiva, 2010).

The theme of care has been touched more tangentially, for example in the context of discussing land rights of rural class and gender (Cliffe and Moorsom, 1979; Nightingale, 2011) and feminization of anti-poverty programs in Latin America (Bradshaw et al., 2018). Dengler and Strunk (2018) note a potential connection to the literature on Degrowth here, as Degrowth is often motivated in terms of an alleviation of environmental injustices and a promotion of care and reproductive activities. However, the authors argue how this is possible only if degrowth work-sharing proposal if designed in a gender-sensitive way.

A new research agenda for Ecological Economics of Degrowth therefore needs to not only have a strong engagement with feminist debates, but also reflect on the gendered genealogies of knowledge produced and reproduced. The following section focuses on aspects for an emerging degrowth paradigm situated at the intersection of decolonial feminist research and knowledge production and proposes three research themes.

4.2.2. Research topic 5: ecological requirements of care work

A considerable amount of total human labour, up to one half in some countries is dedicated to unpaid care work (Benería, 2015),

typically within the realm of the household and done mostly by women, many of them immigrant care workers. The concept of *embodied debt* refers to the unpaid reproductive labour that provides use value and regenerates the conditions of production, including that of future labour force (Salleh, 2009, 2018).

According to Čakardić (2017:42), the feminism of Rosa Luxemburg's work in *The Accumulation of Capital* can be a productive starting point to analyse embodied debt. The author argues that Luxemburg's theory "widely contributed to drawing a distinction between productive and non-productive labour. One such example comes from her interpretation of the societal role of the family". Čakardić (2017:44) furthermore shows how "Luxemburg differentiated between labour in the market sphere and labour in the household sphere, thereby laying the foundations for early social-reproduction theory. Luxemburg also argued that whenever capitalism is in crisis, or needs 'allies' for the restoration of profitability, it integrates, often legally, marginalised "Others" – women, children, non-white races – into the commodified sphere of accumulation".

Ecological economists have done some preliminary metabolic analyses showing how the commodification of care work – that is the substitution of unpaid care work with equivalent market services – increases energy requirements (e.g. D'Alisa and Cattaneo, 2013). The commodification of care work therefore increases total energy use and goes against the objective of degrowing energy use. Ecological economists have the tools to develop an important research agenda of calculating in non-monetary/biophysical/material terms the actual dedication of human time to care labour, and to help us understand better the role of care work in social metabolism. From a degrowth perspective it is important to start thinking how systems of care provisioning could be reconfigured so as to enable both a reduction of throughput and more equitable allocation of the work along lines of gender, ethnicity, class or race. What are, for example, the metabolic requirements of a public care system compared to a private one? How does co-parenting or childcare sharing change the throughput of the services involved?

4.2.3. Research topic 6: role of women in ecological distribution conflicts and opposition to growth projects

Ecological economists have contributed significantly to our understanding of ecological distribution or environmental justice (EJ) conflicts (Martinez-Alier et al., 2016; Martínez-Alier et al., 2010; Pérez-Rincón et al., 2018). These contributions have promoted also understandings of links between such conflicts and the growth of the global economy or what Brand and Wissen (2018) call the imperial mode of living. The Environmental Justice Atlas registers a growing number of environmental justice movements, emerging as a result of geographically uneven and socially unequal metabolic processes, and many forms of hierarchy and exploitation (Temper et al., 2018). These conflicts, known as ecological distribution conflicts arise from social asymmetries in the distribution of political, economic and social power (O'Connor and Martinez-Alier, 1998). However, less attention has been paid to the gender dimensions of these conflicts (for an exception, see: Veuthey and Gerber, 2012).

Women figure at the forefront of many mobilizations against extractive projects. A new research agenda could focus on better understanding why and how. Research here should move beyond the early essentialist connection between women and nature that has been criticized by many ecofeminists (e.g. ideas that women defend nature because their reproductive function brings them closer to nature, or because they care more for the health of their children). It should instead shed light on the changing position of women in the context of changing metabolic flows and their related political economies. For example, why do women increasingly lead movements against mining? How does such participation reconfigure women's positions in their communities? How do claims about territoriality or new models of motherhood become part and parcel of such conflicts?

4.2.4. Research topic 7: gender relations in grassroots economies

In the degrowth literature, there is considerable emphasis on alternative economic practices – from urban gardens and time banks to alternative food networks and cooperatives. These are thought to be the seeds or incubators of alternative economic ethics and practices and hence symbolize a degrowth transition (see Kallis et al., 2018). There is however surprisingly little work on gender relations and the distribution of care-work within such initiatives.

A gendered division of time and tasks in the "mainstream economy" tends to reproduce itself in the alternative sphere, despite greater awareness for the need to dismantle traditional gender roles. Why and how does this happen? Case studies on the unequal division of labour within alternative or sharing economy experiments (e.g. Frengen and Schor, 2017; Schor et al., 2016) can shed light on the potential for reproduction of patriarchal relations, the mechanisms and causes of it as well as ways to avoid them even in a hypothetical post-growth or degrowth society. Research in this domain could – and should – be "Action Research" where researchers directly contributing to the alternative collectives they study and help them through the production of knowledge that is gender and power conscious.

5. Conclusions

Research on degrowth is an important domain of ecological economics. While existing research has focussed mostly on proving the limits to (green) growth and pondering economic alternatives, this article has argued that future research should pay more attention, and be written, from the 'margins' – from the perspective, that is, of the marginalized, in terms of gender, race, class and caste. Ecological economists can do much better in shedding light on the structure and causes of unequal North-South relations, or the ways women continue to be exploited within the growth economy, and the ways they challenge this exploitation. The state of the current ecological economic scholarship on these questions remain unsatisfactory. There is a need to go beyond the mere recognition of the important – and unpaid – care labour of women, or facile statements according to which the North should degrow, so as to exploit the South less (or let it grow).

In this review, we have identified a range of new questions the next generation of ecological economists can and should grapple with: what sort of post-growth policies can work in the Global South, and under what conditions? Who enjoys an imperial mode of living, where and what are the ecological economic processes of unequal exchange that sustain it? How do the concepts that ecological economists use – or produce – subtly or unintentionally reproduce colonial or gendered ways of seeing? How does the arrival of 'development' in peripheral areas change local metabolisms, and how do clashes between 'imperial' and indigenous social metabolisms play out in the ground? What are the metabolic requirements of different arrangements of care-work and how are they distributed along lines of class, race, ethnicity, and gender? Why are women increasingly leading environmental justice movements in contexts of ecological distribution conflicts, and how does their leadership reconfigure the content, framing and strategies of such mobilizations? What is the gender division of work in alternative, solidarity economies and how can we avoid a reproduction of unequal gender relations in a hypothetical degrowth transition?

Crucially, this research agenda should centre the voices of those writing from the margin; scholars from non-privileged positions in dominant academia. A new research agenda should integrate a plurality of genders, ethnicities, cultural and geographical backgrounds.

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Appendix A. Supplementary data

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