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Degrowth and the City: multiscalar strategies for the socio-ecological transformation of space and place

Abstract

Degrowth is both an academic debate and an activist call for a necessary socio-ecological transformation. It proposes a just and selective quantitative reduction of societal throughput to achieve ecological sustainability, social justice and individual well-being. What does such a transformation imply for cities, for place and space in general? Recently research has begun to explore this question, at the intersections of the degrowth project with geography, urban and planning studies.

The present systematic review of this stream of the degrowth literature argues that contributions convincingly criticise mainstream solutions of sustainable urban development and portray an inspiring variety of local and sectoral alternatives. They also discuss the possibilities of spatial planning for degrowth. But the literature, related to a limited conceptualisation of space, lacks consideration for larger geographical scales (localism is prevalent). Also, limited attention is paid to material flows (the focus is on formal outcomes in the built environment) and there sometimes is a lack of reflection about positionality (with a tendency to apparently universalist solutions).

Drawing in particular on Doreen Massey's conceptualisation of the relationality of space and place, a conceptual framework is proposed for further research. It evidences questions neglected in the reviewed literature: how to spatialise degrowth beyond the local scale, not reducing the argument to a dualism between local=good and global=bad? And, how to transform not only the physicality of places but also the material and immaterial relations they are based on? This framework, embracing a situated, relational and multiscalar understanding of space and its socio-ecological transformation, might be a first step in approaching these and other open questions in the debate on degrowth, cities and space.

Keywords

Degrowth; urban degrowth; urban geography; localism; multiscalarity; relational space

Introduction

Degrowth aims to be a desirable project of socio-ecological transformation, in the form of a 'matrix of alternatives' (Latouche 2010). A transformation based on a selective and just reduction of production and consumption. On the opposite, the mainstream responses to the global environmental crisis - sustainable development and green economy - are based on the strategy of decoupling economic growth from environmental impact. A strategy that has been proved to be unfeasible on both empirical and theoretical grounds (Parrique et al. 2019). Having abandoned the promise of universal well-being through growth, degrowth proposes an alternative idea of 'good life': less paid work and less material wealth but more free time and space for social relations, arts and politics. Degrowth furthermore wants to increase social justice locally redistributing wealth and globally reducing processes of unequal ecological exchange. Degrowth proposes to adopt the principle of sufficiency before efficiency and prefers conviviality over individualism (D'Alisa, Demaria, and Kallis 2015).

This project of transformation has profound spatial implications: it requires rethinking cities as much as rural areas, it is a project that asks for different places to live in but also to change the relations between spaces and places. So far though, this spatial dimension has gained limited attention (Demaria, Kallis, and Bakker 2019; Savini 2021). As Xue (2021, 7) remarked, "the causal power and liability of space is yet to be recognised and employed by the degrowth advocates."

A relevant field to reflect on degrowth's spatial implications is its critique of growth-oriented capitalism as unjust and unsustainable. Much of this critique focuses on capitalist metabolism and has already an implicit spatial dimension, e.g. in the concepts of externalisation and unequal ecological exchange. Analysing externalisation helps to unmask the illusion of sustainable development policies, be it at the national and global (Parrique et al. 2019) or at the local scale (e.g. Mössner and Miller 2015). This reminds of the debate on planetary urbanisation (Brenner and Schmid 2015; Brenner and Katsikis 2020) which describes cities, hinterlands and the relations between them as part of the same process: hinterlands are violently shaped as 'operational landscapes' of capitalism, in order to produce the metabolic flows to sustain cities. Some recent contributions to *City* have asked to include impacts occurring distant from places of consumption, when discussing urban sustainability (Mayer 2020; Cohen 2020).

Unequal ecological exchange describes how wealth in the global north is based on a history of exploitation of other places and spaces (Hornborg 2006). This links to the arguments advanced by decolonial scholars for whom 'coloniality is the dark side of modernity' (Mignolo 2007): a modernity materially possible through unequal ecological exchange and morally justified by the 'epistemic violence' of assuming European ideas to be universally valid. In this perspective, degrowth – and, with it, the present paper – should not aim at building a new universalism,

but rather cooperate with other perspectives and movements, forming a pluriverse of alternatives (Kothari, Demaria, and Acosta 2014; Nirmal and Rocheleau 2019).
Degrowth intends to contribute to a global socio-ecological transformation. But often (not always) the degrowth response to the critique of unjust global social metabolisms resorts to localism; at least in this part of the degrowth literature which attempts to pin down the degrowth project to actions in place and space. But this project of localism suffers from a limited consideration for the complexity of human geographies (cf. Krähmer 2018). It searches for universal responses, for 'ideal' dimensions and structures of settlement and often lacks differentiated analyses of place and space at different scales.
The article unfolds as follows: first I propose a systematic review of the existing literature on degrowth, cities and space, discussing six themes or issues. The first three of them emerge as strong points of this literature: the degrowth critique of sustainable urban development, the 'pragmatic localism' (Mocca 2020) exemplified by 'nowtopian' case studies and the debate on planning and urban policies for degrowth. But there are also three limits or gaps in this literature. This is in the first place an excessive trust in localism as a universal solution; I suggest that research could improve focusing on multiple geographical scales. Secondly, I discuss why research should engage with material geographies. And finally, relating to decolonial arguments, I consider it important to be more explicit about the geographical context of spatial degrowth proposals. Building on this critique, I dedicate the final section to the proposal of a conceptual framework for multiscalar strategies for the degrowth transformation(s) in space and place.

Methods

This review focuses on contributions that explicitly refer to degrowth[1] in combination with terms like city, space, planning and geography. Publications have been identified with repeated searches on Google Scholar, Scopus, references in first identified contributions and personal contacts. Important contributions to this emerging debate (less than a quarter of these contributions have been published before 2018) have been the books *Housing for Degrowth* (Nelson and Schneider 2018) and *Postwachstumsstadt*[2] (Post-Growth City) (Brokow-Loga and Eckardt 2020); sessions at the international degrowth conferences in Budapest

1 A few contributions have been included which do not explicitly refer to degrowth but take up arguments that play a crucial role in the degrowth debate; e.g. contributions empirically showing the delusion of decoupling strategies in urban contexts.

2 It is impossible to directly translate Degrowth to German, thus "post-growth" is used.

(2016) and Malmö (2018); a session at the AESOP conference in Venice (2019) and two thematic conferences in Germany in 2019[3].
The review covers 31 peer-reviewed papers, 19 contributions to the two edited books and seven other contributions (most texts are in English, some in German and Italian). Studying their content, I have identified common traits, debates, and themes. Moreover, I have systematised the results of this work in a table (see Table 1), attributing five tags to each text.

< Table 1: Literature Review with Tags by author >

Contributions come from a wide range of fields – critical geography, urban and planning studies – to represent the thinking on space and its transformation in the degrowth debate. Such a wide perspective makes a claim about the completeness of the review problematic, considering also the ambivalent use of terms like, 'geography', 'city' and 'space'. To draw neat boundaries towards fields like (critical) political economies or (urban) political ecology is impossible – even more so with the plurality of the degrowth debate itself (Barca, Chertkovskaya, and Paulson 2019). Anyhow, in a combined interpretation of both the detailed reading and systematic classification, those six themes have appeared as central, around which I organise the sections of this article. The first three issues emerge as strong points of this literature; the last three stick out as gaps and stimulating areas of further research.

Green cities are not so green: Decoupling vs. externalisation

While degrowth includes a critique of (post)modern urbanisation (e.g. Lietaert 2010; Latouche 2019), as productivist, source of loneliness, destructive of landscape and historical cities, unsustainable, a particularly strong contribution has been made criticizing the mainstream alternative project of sustainable urban development (Næss et al. 2011; Schneider et al. 2013; Mössner and Miller 2015; Xue 2015; Schindler 2016; March 2018; Xue 2018b; Cristiano et al. 2020; Krüger 2020; Krähmer 2020). Unmasking the limits of decoupling has allowed to raise doubts about the apparently virtuous cases of Freiburg, Oslo, Copenhagen. In these cities efficiency achievements, e.g. in mobility and housing, are eaten up by economic growth. For instance, Copenhagen's sustainability strategy is limited by the externalisation of impacts, the exclusive focus on efficiency and the use of

3 Currently, I am part of a constituting international "Municipal Degrowth" research and activism network.

sustainability policies as a fix for economic growth (Xue 2018b; Krähmer 2020). Mössner and Miller (2015) describe Freiburg as an 'island of sustainability' which rather than transforming lifestyles, expels those who are less sustainable: the car dependent single family house, not wanted in Freiburg, is built in surrounding municipalities. This raises concerns about spatial justice and finally the overall ecological impact is not reduced. Schneider et al. (2013) advance a similar argument: while the energetic efficiency of houses in Europe has increased over the last decades, overall consumption has grown with the reduction of the average household size, increased per capita space use and the increased consumption of household appliances. Moreover, the attempt to make neighbourhoods ecologically sustainable, can lead, in a growth-oriented capitalist economy, to increasing housing prices and gentrification (Cucca and Friesenecker 2021). The construction of new 'eco-neighbourhoods' (or cities) can be a way of self-segregation of affluent citizens. Cristiano et al. (2020), in the case of Naples, scrutinise the possibilities of making urban metabolisms circular through a systems thinking approach. They argue that more than technology, cultural values need to change. Social justice, i.e. the access to the city's metabolism, must be considered and it is crucial to consider the size and the 'spinning speed' of urban metabolisms: if expected to continuously grow in size and accelerate, any circularity remains an illusion (cf. also Parrique et al. 2019).
Also urban policies apparently close to degrowth can have contradictory results: Islar and Gülbandılar (2019) studied Halfeti in Anatolia, a 'Slow City'– the label stands for environmental protection and local economy. But the city's project concentrates on the attraction of tourism, depoliticizing the impacts of the construction of a big dam. If this is a failure of the Slow City idea itself, or a co-optation of the label for a conventional development strategy is an open question.

Degrowth here and now: Nowtopias, collective housing and sharing

The search for degrowth alternatives has often focused on successful small-scale alternatives or 'nowtopias': the largest group of contributions in the reviewed literature. Since in 2014 Schulz and Bailey noted a lack of empirical work on transformations of post- and degrowth economics in space, many such studies have been published, focusing on very diverse projects of transformation.
The tiny house movement is an example of an individualistic nowtopia. The movement's small mobile homes could reduce personal consumption and guarantee closeness to nature (Anson 2018). But easily a logic of distinction is reproduced: who has the 'fancier' tiny house? (ibid.).
Collective approaches seem more promising. Schmid (2019) finds commonalities in the promotion of community-based alternatives in the literatures on degrowth and post-capitalism: these alternatives can evolve into 'transformative

geographies' if the tension between the hopes associated with them and structural, institutional limitations, is solved. Close to Barcelona, anarchism–inspired experiences of rurban squatting link collective living to agroecological practices and neighbourhood activism: unplanned degrowth experiments for participant observers Cattaneo and Galvaldà (2010). Hurlin (2018) writes about the German *Mietshäusersyndikat,* a model of collective property, that takes buildings out of the market to contrast real estate speculation and make good housing affordable. Lietaert (2010) proposes cohousing as an antidote to stress, competition and loneliness, as it favours the habit of sharing (space, objects, time), enhancing the community and reducing ecological footprints. But Litaert notes that most cohousing projects are socially homogeneous, formed by mostly white, well-educated, well-off people. In two case studies on cohousing in Vienna, Cucca and Friesenecker (2021) find the same dilemma in one case, but highlight that in another case the regulating role of the municipality has managed to guarantee a greater degree of inclusiveness and housing justice – at the cost of a lower degree of self-organisation and sharing. Sharing and togetherness are crucial to degrowth's ambition to forge human relations other than market relations (Jarvis 2019). These values can be realised for example in cohousing projects, but Jarvis warns against both the so-called sharing economy and a too romantic vision of place and community. 'Real' sharing is not automatic, it needs a process of social negotiation in intentional togetherness (which may not occur in commercialised versions of cohousing).

Alexander and Gleeson (2019) recognise a potential of transformation precisely in (Australian) suburbs, which other authors criticise as particularly unsustainable (e.g. Wächter 2013; Latouche 2019; Xue 2021). Aware of how suburbs today are related to high ecological impacts, they propose to take advantage of their low density for a communitarian project of democratic autonomy. Their idea is to reduce cars, to eliminate fences and use gardens for food production and garages as spaces for artisans. Instead of looking for an ideal form of settlement, they engage with the complexities of an existing geographical context that could seem particularly hostile to degrowth transformations.

In a few cases, setting out from the local, protagonists attempt to transform larger scales; state power, for instance. These transformations are promoted in situations of conflict, by movements for autonomy in opposition to states and state-led development policies: be it the Kurdish Freedom Movement in Turkey (Akbulut 2019), the Zapatistas in Mexico or Adivasi communities in India (Nirmal and Rocheleau 2019). In Greece, the dominant social imaginary of growth-equals-well-being crumbled during the crisis after 2008 and was temporarily challenged by an imaginary of commons, degrowth and solidarity (Varvarousis 2019).

Together these case studies show a wide range of possible and feasible alternatives for ecological, social and collective forms of living, which are already reality in very different places. Two ideas are central: first, much can and must be done here

and now and second, sharing and collective efforts are crucial to reduce ecological footprints and to develop different ideas of well-being. The question is if nowtopian bottom-up approaches have the potential to scale up, leading to societal degrowth transformations (cf. Mocca 2020), or if these 'pragmatic localisms' risk to remain isolated in their 'bubbles' (Brokow-Loga et al. 2020).

Can you plan degrowth? Urban policies and planning

Possible degrowth strategies in spatial planning, urban and housing policies are the object of another group of contributions, while some doubt that a degrowth transformation can be planned at all.

Housing has received particular attention among degrowth scholars. Many contributions focus on nowtopias (see section above), a few reflect on potential degrowth urban policies. Many authors coalesce around the idea of space sufficiency. At a small scale, this could mean the reduction of square meters used per capita, to a 'needed' dimension (Schneider et al. 2013; Xue 2014; 2018a; Bohnenberger 2020). This could help to require less material for construction, as well as less energy for heating and less space to fill with consumable goods. Also, reducing the overall housing demand, this could help to overcome trade-offs between social and ecological goals and make housing access fairer (Bohnenberger 2020). This could be achieved by incentivising home sharing through tax reforms, subsidies and the introduction of minimum rates of occupancy (Schneider et al. 2013), as well as favouring collective property and the sharing of spaces; making the use of housing more flexible (e.g. house swapping); taxing non-use, holiday flats and legalising squatting of unused buildings (Bohnenberger 2020). To prioritise refurbishment over demolition and new construction is another common point. Refurbishment can increase energy efficiency and create work but should avoid gentrification; thus rents must be regulated (Schneider et al. 2013; Ferreri 2018). For a degrowth city it is indeed fundamental to bring together ecology and equity. Olsen, Orefice, and Pietrangeli (2018) propose a 'right to metabolism' as an extension of the right to the city. Holistic approaches in urban policies could help overcome sectorial solutions which lead to dualistic choices between environmental sustainability (e.g. limiting land consumption) and social justice (e.g. building new houses for low-income families) (Bohnenberger 2020; Eckardt and Brokow-Loga 2020).

At a larger scale, the principle of space sufficiency is expressed in the call to limit urban expansion through densification and compact city policies, which could help to limit the destruction of nature, the impacts of new construction and of mobility (Wächter 2013; Xue 2014; 2018a). For Wächter (2013) spatial planning institutions should work towards multi-functional settlements with a high number of community based services that enhance local social relations and tackle the

issue of energy production, favouring renewables. Xue (2014; 2018a) asks for an ideological change in planning. She focuses on technical and planning solutions. Planning could stop allocating land to projects that favour global capital accumulation (airports, high-speed railways, factories of multinational companies) and instead dedicate it to the infrastructures and needs of a local economy (Xue 2021). Beyond these normative goals, for Savini the growth-dependency of urban planning is anchored in the global competition between city regions and localities inside these regions. A competition driven by the need to attract investment to city land, e.g. to finance public services, and governed maintaining land scarcity through rationalist and functionalist zoning. Instead, he proposes a 'polycentric autonomism' of localities, coordinated through cooperative networks. Planning should adopt the principles of 'finity' (cf. sufficiency), recognising limits to land transformation, and of 'habitability', i.e. context-specific zoning with the goal to "maintain and restore the social and ecological qualities of [an] area" (Savini 2021, 1089). Lamker and Schulze Dieckhoff (2019) focus on the planning process. They propose to adopt different criteria to evaluate success, to learn from errors, to favour inclusivity, to not delegate planning to institutions and to experiment in order to scale up small changes to larger transformations.

What remains unclear in these scenarios is how planning institutions, possessing these transformative powers, could abandon the goal of economic growth. The possibilities of planners to directly embrace degrowth values is presumably limited (cf. Latouche 2019). But planners could try to expose contradictions between conflicting policy goals (i.e. climate change mitigation and economic growth) and show potential alternative, degrowth-oriented, planning scenarios in participatory settings (Xue 2021).

Often, however, the literature argues for the need of deeper transformations, way beyond the power of existing planning regulations. This starts with Latouche's (2016; 2019) claim that only a degrowth society can solve the crisis of city and landscape. But Latouche (2019) does not explore this transition and his proposals remain largely formalistic. It might be naive to expect a masterplan for such a transformation and in fact Cristiano (2020) wonders if it can be planned at all. Building on Wrights transformation theory, Brokow-Loga (2020) proposes a 'strategic pluralism': an 'interstitial' strategy with small-scale collective practices that works together with a 'symbiotic' strategy of cooperation with institutions. The horizon is a 'ruptural' strategy, not intended though as a revolution to overthrow capitalism with violence, but rather as a way to increase progressively the space for the other two strategies. Possibly, this approach is able to overcome the tension between radical ambitions and small-scale proposals. I agree with Brokow-Loga that keeping this tension alive is far more promising than both the hope for a magic transformation after the revolution and being satisfied with small steps of reform only.

Is the local a solution? Visions and limits of localism

The degrowth literature tends to opt for localism. At least that specific stream of literature analysed here, which connects degrowth to urban and geographical questions[4]. Savini (2021) laments the absence of the regional scale from this literature's debates. Also Kallis and March (2015) call for an engagement with degrowth across scales. Even so, their specific attention focuses on nowtopian and small-scale alternatives, with the exception of a regional cooperative network in Catalunya. They propose a planetary (degrowth) community but it remains unclear how local communities could act together in this planetary utopia, as they recognise.

A detailed critique of degrowth localism is provided by Mocca (2020). She distinguishes between a pragmatic localism for which the local scale is simply where most easily degrowth ideas can be experimented and localism as a strategic project, i.e. the general (re)localisation of social, economic and political relations. Pragmatic localism (see section on nowtopias) is very common in the literature and it would benefit from being situated in a multiscalar perspectives on degrowth transformations. Unfortunately, research on scales other than the local has been limited. This can be related to the fact that localism as a strategic project has played a strong role in the degrowth debate[5] (e.g. Rees 2015; Latouche 2016; 2019; Schneider and Nelson 2018; Dale, Marwege, and Humburg 2018; Trainer 2018; Vansintjan 2018; Gerber 2020). Small is considered good and beautiful (D'Alisa and Kallis 2020) and Latouche includes 'relocalisation' in his 8Rs of degrowth (Kallis and March 2015). Rees (2015) argues for localism to reduce complexity and make systems manageable, as excessive trade would incentivise unsustainable extractive choices and globalisation reduce local economic diversity and thus resilience. Moreover, the end of cheap energy would raise transport costs and thus unavoidably lead to relocalisation. Localist projects, Mocca (2020) shows, draw on old ideas of utopian and green thought, be it Ebenezer Howard's garden city, Murray Bookchin's municipalism, Raimon Panikkar's bioregions or Takis Fotopoulus' demoi. Many of these proposals have in common the search for an ideal scale for a local community, often with neatly identified ideal numbers of inhabitants (e.g. 30.000 for the demoi, 10.000 for the bioregion) (e.g. Gerber 2020). At this bioregional scale, it is deemed feasible to localise production, concentrating it in the area physically contiguous to a settlement and all flows seem controllable (D'Alisa and Kallis 2020). Also a political localism appears to be a

4 While much degrowth literature connected to other fields, like political economy and ecological economics, develops proposals for the transformation of the global socio-economic system or for different national policies. But with little efforts to spatialise their proposals.

5 Personal discussions in the Italian degrowth movement confirm the importance that the localist project has also for many degrowth activists.

concrete possibility, as the small scale allows for participatory deliberation (Widmer and Schneider 2018; Mocca 2020; D'Alisa and Kallis 2020).

Degrowth authors propose an *open* localism with permeable boundaries, in which local communities coordinate with each other or even confederate and potentially organise some economic or political issues at a supralocal scale (Liegey et al. 2016; Widmer and Schneider 2018; Schneider and Nelson 2018; Gerber 2020). Savini's (2021) regionalist proposal of 'polycentric autonomism' takes a similar form. Widmer and Schneider (2018) imaginatively describe a sufficient life in neighbourhoods of ca. 500 people, intimately connected to agricultural grounds. Collective sufficiency in their vision allows some luxuries, certainly culture, arts and space for social meetings and sharing but also the occasional product imported from far away.

Localist utopias though have their limits. The earth is no *tabula rasa* but a complex system of stratified geographies (Krähmer 2018), as also Widmer and Schneider (2018) recognise. It is clear to them that from a material and energetic viewpoint it would be too expensive to physically rebuild contemporary geographies (cf. Xue 2014; 2021). Indeed, Widmer and Schneider (2018) imagine their neighbourhoods as confederated into very diverse larger spatial units, imagining them as much as part of Beijing as of Cuzco. But this relates awkwardly with the project of a global structure of 16 million neighbourhoods aggregated through intermediated scales into 600 territories, as if a universally 'correct' local scale existed, without differences in the physical, economic and power geographies in which these 'neighbourhoods' are embedded.

For Mocca (2020, 89) degrowth localism is based on an *a priori* assumption that the local scale is better and that it allows to achieve more than national or international scales. Purcell (2006) warned against the 'local trap': "[it is] dangerous to make any assumption about any scale. Scales are not independent entities with pre-given characteristics." (p.1921). The success of existing experiments of local communities in reducing ecological footprint, managing wide reaching citizen participation and scaling up, is little supported by empirical research, Mocca (2020) argues. Cattaneo and Galvaldà (2010) evaluate quali- and quantitatively if their rurban squats manage to reduce footprints. While their results appear encouraging, they also evidence the actual difficulty of separating such experiences from external connections and dependencies. Low calculated impacts risk being an illusion when those relations are underestimated. Moreover, it should not be taken for granted that local communities automatically take degrowth compatible decisions (Xue 2018a). In some visions of localism it seems that harmonic and autonomous communities can solve the excessive consumption of nature and of unequal global relations simply by their elimination and negation[6].

6 I owe this argument to Marco Santangelo

Of course there are valuable arguments for a *tendency* towards localism. A growing and globalising capitalism structurally devastates livelihoods. Indeed it is a "mad waltz [when] shrimp, fished in Denmark [is] deveined in Morocco where labor costs are lower, and strawberry yoghurt [...] ingredients, in 1992, travel over 5,600 miles" (Bihouix cited in Liegey et al. 2016). But the spatial dimension of a degrowth transformation should not be reduced to the project of localism. Utopian proposals of localist transformations alone are not enough. A tendency of localism must be part of a strategy of transformation across scales (Kallis and March 2015) in which the precise role of localism must yet be defined. There has been a repeated call to 're-inhabit' differently existing geographies, be they cities, suburbs or something else (Krähmer 2018; Latouche 2019; Alexander and Gleeson 2019). This perspective does not exclude physical change but recognises that it will be limited (ideally to few, strategic elements) and hardly result in completely new, idealised settlement structures. To be sure, not all contributions in this stream of literature focus on the local scale. A few of the nowtopian examples (Akbulut 2019; Nirmal and Rocheleau 2019; Varvarousis 2019), proposals for housing policies (Schneider et al. 2013; Bohnenberger 2020), as well as the idea of the Solidary Degrowth City (Brand 2020; Eckardt 2020), make the effort to look beyond the local scale. But, so far, these are isolated works.

Not only less, also better: Transforming material geographies

A way to overcome the limits of localism is to look at material geographies. Space is not a geometrical surface: it is constituted by relations, Massey (2005) argues. These relations are both immaterial and material, like flows of matter and energy, and are characterised by power imbalances. In ecological economics the sum of these relations is defined as social metabolism and its selective reduction is a fundamental degrowth proposition (Akbulut et al. 2019). In the literatures of ecological economics and political ecology, social metabolisms have been studied critically in many contexts, often in relation to movements for environmental justice that oppose the impacts of extraction and waste disposal (Akbulut et al. 2019). Cristiano el al. (2020) remind us that the study of urban metabolisms needs to include the complex connections to urban support areas outside.

In the reviewed literature though, which sketches pathways of degrowth transformations of cities and spaces, the spatial implications of reducing social metabolism are treated partially. The issue is central in the critique of the existing urbanisation and sustainable urban development. But the problem is often solved hastily resorting to localism. Is there an automatism that local social metabolisms are harmless? Proposals like home sharing are supposed to lead to a slower metabolism. Does sharing automatically reduce metabolic inputs? Moreover, some localist proposals, like Rees (2015) and Widmer and Schneider (2018), include the

idea of a residual long-distance trade. But little effort is dedicated to discussing how this trade might be organised.

A *quantitative tendency of relocalisation* to reduce the excessive global social metabolism is certainly necessary for degrowth. But it should be combined with a *qualitative transformation of those supralocal relations* that could and should continue to exist. A radically localist proposal could elude strategies of transformation for larger scales. Viewing space not as a sum of distinct places, but as interconnected, in which supralocal and global flows do not simply disappear, answers need to be found on how these flows can be reshaped. Stimulating avenues of research could start engaging with literatures on 'material worlds' (Bakker and Bridge 2006). Be it in the form of commodity chains and geographies, follow the thing (Leslie and Reimer 1999; Hughes and Reimer 2004; Cook et al. 2004) or also the debate on planetary urbanisation (Brenner and Schmid 2015).

In other words, the existing literature has focused on the important question of how the urban, suburban, rural places the globally wealthy inhabit could change to *reduce* metabolic inputs. Proposals focus on the principles of sharing and sufficiency, materialised in cohousing, repair cafés, orchards in the place of parking lots and much else. These are the types of practices that the literature on nowtopian experiments has explored. New lines of research could look at *how* these metabolisms are organised, taking up existing research; and how they should change. How could these relations be organised to be fair and just? How could the organisation, spaces and places of logistics and mobility change at all scales? How can we imagine political processes to decide which material relations to localise more than others? Which might be the criteria? For example: Central Chile's fruit export industry. In Italy you could argue that it makes no sense to import fruit from Chile, as local fruit is available all year round. Is it as easy for Norway or the cold southern Chile itself? Especially if we favour vegetarian diets, might some fruit and vegetable imports be sensible? What about tea, coffee, chocolate? The materials to build the computer I am writing this text on? Ingredients for medicine? Vaccines against pandemics? If we may continue to need some of these inputs in a degrowth scenario, we should start to debate how to organise them, respecting environmental sustainability and justice.

A valuable proposal in this perspective is the 'Solidary Degrowth City' (Brand 2020; Eckardt 2020). Both authors argue that contemporary urban lifestyles rely on an 'imperial mode of living', i.e. on unequal ecological exchange which allows huge quantities of matter and energy to flow to cities in the global north. They call to make these geographies of global trade an issue of urban politics, trying to shape these relations in the vein of a 'solidary mode of living'. A slogan to be filled with life.

Much can be learned from existing practices and policies and their limits. Fair trade has worked in this direction, improving livelihoods in many cases. But it has remained an often elitist project due to its high prices, meaning that frequently the

possibility to not exploit is limited to those wealthier consumers who actually benefit more from growth-based economies. Furthermore, fair trade risks being coopted by capitalist accumulation (Jaffe and Howard 2010) and it is mostly limited to certain product categories. Can we imagine a fair and solidary trade of materials for smart phones and medical products? And how to scale this up, beyond isolated projects and avoiding cooptation? Another interesting development are new supply chain laws in Europe, e.g. in Germany[7], which make companies legally responsible for human rights violations and environmental damage elsewhere. A partial change that at least advances the idea of a local responsibility for global impacts. Degrowth research could discuss if such strategies can contribute to face the challenges of reshaping social metabolisms at all scales.

A pluriverse of alternatives: Places and spaces in alliance

Interpreting economic growth as based on global relations of unequal ecological exchange, degrowth connects to the issues of both epistemic and material violence raised by decolonial thought. Also in this context, the spatial implications in the degrowth debate could be played out more clearly. Many proposals in the literature on degrowth, cities and space do not reflect their positionality, with authors tending to assume a universal validity of their proposals, for instance when Widmer and Schneider (2018) propose their neighbourhood module as being of the right size everywhere. As if the challenges were the same for every place, independently from its geographical context, its degree of urbanity/rurality and its relations to other places.

Nirmal and Rocheleau call to shrink degrowth's universalistic aspirations and conceive it as part of a movement of movements in a decolonial post-development convergence. Demaria, Kallis, and Bakker (2019, 441) agree: "degrowth may make sense from a Southern perspective, not as an umbrella term (…), but as an attempt to deconstruct and undo in the West a Western imaginary that has been at the heart of colonialism and that domestic elites use in the Global South to justify inequalities and eradicate more egalitarian alternatives." Degrowth could be seen as the global north's contribution to "Pluri-versality as a universal project" (Mignolo 2007, 500). It already contains central elements that make it compatible for such a convergence (Kothari, Demaria, and Acosta 2014), as it proposes to reduce ecological footprints in the global north and to reshape geographies of externalisation and unequal ecological exchange. This does not simply mean that the global north, generously, "frees ecological space" (Rees 2015). As Escobar (2015, 31) points out in the degrowth vocabulary, "it is important to resist falling

7 www.lieferkettengesetz.de (Last access: December 2021)

into the trap of thinking that while the north needs to degrow the south needs 'development'", meeting at a sort of quantitative average.

While these can be material conditions for decolonisation, the point may be to recognise more explicitly that degrowth proposals and ideas of what is a good life – and a degrowth city – are context-bound and not universal. As highlighted in Table 1, there are many non-situated, universalist proposals[8] for degrowth spaces and places. In particular when arguing for localised but idealised settlement structures. One of the strong points of degrowth is its heterodoxy and the multiplicity of its proposals that do not and should not attempt to become a new orthodox discourse but rather a 'nomadic utopianism' that conceives degrowth as an open-ended process, with a plural vision open to critique (Barca, Chertkovskaya, and Paulson 2019).

In this sense, degrowth authors should put less effort in developing hypotheses about universally valid forms and sizes of settlement. Degrowth and degrowth-related proposals may follow some common principles, but may not take the same forms in New York and Cuzco, in Bavaria and the Atacama desert. Rather they should forge alliances with projects of decolonisation in other parts of the world, such as *buen vivir* and *ecological swaraj* (Kothari, Demaria, and Acosta 2014). A central task should be to identify pathways of transformation of places in the global north/the West/the wealthy parts of the world that reduce and transform unjust social metabolisms *and* are desirable for the people inhabiting these places. The literature already contributes a lot to this imaginary, proposing resource-light and desirable forms of living (see sections above). But these proposals might benefit from situating more clearly the places they are formulated for in terms of their position in regional and global social relations of matter, energy, work and power.

An important challenge is that the 'components of the pluriverse' cannot be neatly separated geographically. Again, a simple localist or regionalist project ('everyone in their place in the pluriverse') would be problematic – interconnections, with their degree of social injustice, are innumerable, concurring beliefs, cultures, traditions, possibilities etc. co-exist in places (Massey 1994; 2005). Indeed, it is widely shared that degrowth wants inclusive and open places (e.g. 'open localism'). But adopting Massey's relational view of space, proposing confederated places in bioregions (e.g. Savini 2021) is not enough, as there are hardly naturally existing borders to define and separate these bioregions. If degrowth proponents propose new spatial units and thus, new borders, they should explain how they could come into existence. While there certainly are different alternatives in a pluriverse, they cannot be seen as independent and separate from one another. They are and most likely will be linked by material and immaterial relations that always risk to be unequal and unjust. So again, relations are fundamental, across

8 This binary division in context-based and universalist approaches surely is not very fine-tuned and the attribution is disputable in some cases.

multiple scales that overlap and interact. Firstly, one should situate proposals of transformation for places, considering 'where' they are in relation to other places. Secondly, the relations themselves must become objects of analysis, debate and transformation.

Towards multiscalar degrowth transformations in relational spaces: A conclusion and a proposal

How could a degrowth city, a degrowth space look like, in which the throughput of energy is reduced, social justice and well-being are enhanced? There is no possibility to answer this question in the terms of a universally valid utopia. Because the discussion on degrowth, cities and space reviewed here is at the beginning. But more importantly so because the goal of degrowth is not to build a new orthodoxy or a new universalism. And because spaces and places are continually reconstituted through the relations at their basis (Massey 2005). Context-specific imaginations of degrowth can help to mobilise for a 'nomadic utopianism' (Barca, Chertkovskaya, and Paulson 2019). Many contributions reviewed here do that, describing nowtopian examples which contribute to positive narratives about desirable degrowth places. Others analyse the limits of sustainable urban development which externalises problems rather than resolving them.

But there are flaws in the reviewed stream of literature; there is an excessive focus on localism and a lack of attention to larger scales, exemplified in a limited engagement with material geographies and with the positionality of degrowth proposals. Mocca (2020), in her take on localism criticises the lack of a consistent theoretical framework. Degrowth, in other words, lacks a clear conceptualisation of space and how to change it. I propose that a relational conception of space can help to develop consistent strategies for the spatial realisation of this project. Degrowth can be summarised in three essential propositions or goals (see Latouche 2010; Schneider, Kallis, and Martinez-Alier 2010; Demaria et al. 2013; D'Alisa, Demaria, and Kallis 2015; Kothari, Demaria, and Acosta 2014; Paulson 2017 for more comprehensive introductions): (1) quantitative but selective reduction of production and consumption, as a basic condition for sustainability; (2) social justice through redistribution and the reduction of exploitative relations, e.g. between global north and south; (3) well-being and happiness with reduced material wealth, substituting an unlimited desire for consumption with more time and space for conviviality, social relations, arts, culture, political engagement.

In Massey's (2005) perspective the local and the global 'constitute each other': places are peculiar intersections and mixtures of social relations of different scales and contain the global; (global) space is the sum of the immense complexities of these relations – relations which of course are not equal but form geographies of

power which are directly related to the unequal development criticised by degrowth. The local cannot simply be separated and isolated from the global in any pure way (Massey and Jess 2001; Massey 2005). And the relations themselves become central. In table 2 I try to intersect the three essential propositions of degrowth with the relational perspective of space proposed by Doreen Massey. I summarise much of the reviewed literature in this framework, together with the gaps I have discussed in this review.

Table 2: Strategies for degrowth transformations in Spaces and Places

	Degrowth propositions		
Spaces / Places	**(1) selective reduction of production and consumption**	**(2) local and global social justice**	**(3) well-being and happiness with reduced material wealth**
Spaces (of material and immaterial relations, e.g. between places of extraction in the South and consumption in the North)	Selective downscaling of overall material flows; limitation of the overall quantity of mobility of both human beings and economic goods, at different scales → Localist *tendency*	Building solidary economic relations; a just distribution of the access to mobility and flows; contrasting unequal ecological exchange and imbalanced power relations.	Collective choices about which relations, flows, mobilities to be prioritised; according to their contribution to happiness and well-being rather than economic growth.
Transversal:	Degrowth, in the global north, operates in alliance with other movements in a Pluriverse of Alternatives and situates its proposals in relation to other parts of the world (*In the literature: Kothari, Demaria, and Acosta 2014; Escobar 2015; Nirmal and Rocheleau 2019*)		
In the literature:	Discussed mostly in terms of a generalised relocalisation *(Rees 2015; Widmer and Schneider 2018, Gerber 2020)*; little or no debate on the selectivity of this reduction.	Only the proposal of the Solidary Degrowth City explicitly tackles this point. *(Brand 2020; Eckardt 2020)*	Isolated proposals: keep some trade where production exceeds local production *(Rees 2015)*; Imports for occasional locally unavailable luxuries *(Widmer and Schneider 2018)*

Places (where relations meet; meaning here in particular places in the global north, conceiving degrowth as a contribution to a pluriverse of alternatives)	Sufficiency in space use and other forms of consumption; change in the modalities of land use (e.g. from industrial to agroecological practices of agriculture).	Redistribution of wealth; just access to land, housing and metabolism.	Practices focusing on sharing, togetherness and conviviality; to ensure well-being with reduced material consumption in the global north
Transversal:	Rethinking of Spatial Planning and Policies according to the principle of sufficiency (*In the literature: Schneider et al. 2013; Wächter 2013; Xue 2014; 2018a; Bohnenberger 2020; Savini 2021*)		
In the literature:	Tackled in many aspects: e.g. calls to limit urban expansion, surface areas per capita *(Schneider et al. 2013; Wächter 2013; Xue 2014; 2018a; Bohnenberger 2020)*	Debated frequently; arguments to think ecology and equity together *(Schneider et al.2013; Ferreri 2018; Olsen, Orefice, and Pietrangeli 2018; Hurlin 2018; Eckardt and Brokow-Loga 2020; Bohnenberger 2020; Cucca and Friesenecker 2021)*	A central focus in the reviewed literature; e.g. on cohousing *(Lietaert 2010; Hurlin 2018; Jarvis 2019; Cucca and Friesenecker 2021)*

Table 2 proposes eight strategies for degrowth transformations in space and place, six specific to one of the three basic propositions of degrowth, two transversal. This exercise suffers from all the possible limitations when one tries to press the immense complexity of a socio-ecological transformation into the rigidity of a table. I do not presume that I have covered everything and some of the arguments reviewed in the article may fall outside this scheme. It also risks to be not truly multiscalar, but form a sort of space/place dualism, and it might be improved in this sense. Indeed, this proposal wants to be a contribution to open rather than to close the debate.

The table relates to the existing literature, evidencing those strategies which have gained wider attention in this literature and some that have not, pointing to research gaps. It owes much to the idea of the Solidary Degrowth City (Brand 2020;

Eckardt 2020) and I hope that it can help to fill it with life. The reviewed literature focuses much more on how to transform places and there is a lack of attention on the relations which constitute spaces. Relations in terms of flows of materials and energy, as well as information, power and people. Degrowth should not only discuss how to transform the places in which production and consumption occurs but consider space as relational and *also* focus on the relations between those places which to varying degrees produce and consume. This could mean, as sketched in the table, to conceive the project of localism as a *tendency* rather than a physical project and to accept the *selectivity* of the reduction of global flows. Flows which then should be reshaped in just and solidary forms. And there should be collective discussions to decide which relations, which flows, which trade can be effectively sustainable and just and contribute to the well-being of people both at the production and the consumption sides.
Alongside the urgency to consider the relations which constitute space and place, the literature evidences other valuable principles for this agenda: embrace space sufficiency, further the idea of re-inhabiting existing geographies and think in the perspective of a pluriverse of alternatives, of which degrowth in the global north can be part. In the global north, a strategic pluralism can be adopted for the transformation towards a degrowth city, based on values like sharing and togetherness, ecological sustainability and social justice. This may include small-scale bottom-up projects from cohousing to collective property as well as sufficiency oriented socio-ecological housing policies and planning strategies. I hope this can be a sensible synthesis of strategies for degrowth transformations of space and place in a world that should value more local communities but will most likely continue to be globally interconnected.

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