Rethinking Climate Futures Through Urban Fabrics: (De)growth, Densification, and the Politics of Scale

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In the face of climate destabilizations and breakdowns, debates about the planetary future counterpose visions that draw from radically different political positionings and frameworks. Competing imaginaries of the present and future clash on many questions, but disputes over growth and scale are particularly significant for critical scholarship. Must societies build their way out of climate change's existential threat via massive new investments in technological innovation and infrastructural (re)development, or even through risky earth system interventions such as geoengineering? How far do such initiatives enable ongoing economic growth? Do these varying programs require state coordination, and if so, at what scales and relationships to capital? Conversely, are these visions fatally flawed, requiring altogether different programs of degrowth, techno-skeptical reimagination, and infrastructural/political decentralization? We argue here that these prominent disputes on questions such as scale and 'descaling' for climate action require a better theory of the urban, especially density and processes of densification of human settlements. We will argue that too often today, competing scholarly and popular positions either (over)sell urban density and its potential for eco-efficiencies as a panacea or reject the urban altogether, explicitly or tacitly grouping cities with a range of other processes requiring descaling, decentralization, and relocalization.

Keywords: climate futures, densification, scale, ecomodernism, degrowth

In the face of climate destabilizations and breakdowns, debates about the planetary future counterpose visions that draw from radically different political positionings and frameworks. Competing imaginaries of the present and future clash on many questions, but disputes over growth and scale are particularly significant for critical scholarship. Must societies build their way out of climate change's existential threat via massive new investments in technological innovation and infrastructural (re)development, or even through risky earth system interventions such as geoengineering? How far do such initiatives enable ongoing economic growth, via processes of technological modernization and the apparent 'decoupling' of energy, resources, and emissions? Do these varying programs require state coordination, and if so, at what scales and relationships to capital? Conversely, are these visions fatally flawed, requiring altogether

different programs of degrowth, techno-skeptical reimagination, and infrastructural/political decentralization?

Despite environmentalism's long experience with similar disagreements, we suggest here that prominent scholarly takes on ecomodernism, ecomodern socialism, and degrowth, alongside other political and intellectual projects attuned to the present moment, contain important conceptual ambiguities and gaps. We argue that disputes on questions such as scale and 'descaling' for climate action need more thorough grounding in actually existing geographies and their politics. Repeating a familiar geographers' refrain, spatial relations and the specificity of place matter constitutively in theory-building and praxis. It remains impossible to develop fully formed models of economic development or disassembly, green or otherwise, and then simply 'add geography'. This insight is particularly important for collaboratively developing climate responses that can work for diverse material relations, contexts, and political conjunctures.

More particularly, we argue that debates over scale/ing in fields like political ecology and ecological economics require a better theory of the urban, especially density and processes of densification of human settlements. As contributions to this collection and the workshop that inspired it suggest, the politics of density and densification today are diverse and frequently charged. Urban growth machines of various stripes seek to foster density as a vehicle for real estate-led accumulation and the generation of high-tech agglomeration economies, while some promote slum clearance in the name of more 'desirable' forms of density such as urban enclaves and high-rises. Meanwhile, the legacies of low-density suburban growth old and new continue to

shape and delimit political possibilities across a range of urban geographies. As McFarlane (2016, p. 631) underlines, "density has no necessary pre-given geography, and processes of densification, decongestion, and low-density planning turn out to be far more mobile than we often assume." Moreover, density as attribute (*having* density) versus densification as process (*building* density) are easily conflated, but materially and politically distinct. Yet still too often today, competing scholarly and popular positions on climate response either (over)sell urban density and its potential for eco-efficiencies as a panacea (ecomodernism, particularly its uncritical variants) or propagate solutions with strong localist and arguably anti-urban strains (Owen 2004, and see for example Neuman 2005). Explicitly or tacitly, these latter critiques group cities with a range of other processes requiring descaling, decentralization, and relocalization (degrowth, and see Bookchin 1979).[1]

Considering politically variegated 'green' densification programs in the United States, and critical praxis evolving around them, we present an alternative picture. On the one hand, existing urban (non-)density, 'smart growth' densification politics, and emergent social blocs supporting market-based 'yes-in-my-back-yard' (YIMBY) growth rationales are present realities with which climate action must contend—particularly in settler colonial contexts with long histories of philosophical anti-urbanism, low-density suburban development patterns, and private property-based rights frameworks (such as the United States). On the other hand, densification is a complex analytical object, with politics that cannot simply be read off its scalar form/s (McFarlane 2016). How dens*ification* (a future orientation) relates to already-existing density in terms of the political economy of land is of extraordinary importance for its political valence. Depending on their political placements and features, densification programs may serve *either*

capitalist accumulation imperatives and urban growth machines or contribute to long-term processes of decarbonization through degrowth or ecosocialist projects.

Green growth, degrowth? Scale and actually existing (urban) geographies

In recent years, ecomodernist, ecosocialist, and degrowth-oriented programs have advanced conflicting visions of climate response—debates that we will argue have frequently elided questions about the necessary geographies, frequently urban, of that response. For example, advocates of various forms of ecomodernism have aligned decarbonization with futurist technosocial development—investment in and deployment at scale of novel technologies, sectors, and their material infrastructures. Elaborating upon established, if enduringly contested visions of ecological modernization, sustainable development, and the possible decoupling of economic growth and heightened emissions, by-and-large uncritical technofuturist boosters such as the Breakthrough Institute (Asafu-Adjaye et al. 2015) have pushed a green growth agenda. This program has largely been anchored by calls for high-power density energy (such as 'advanced' nuclear fission and fusion, as well as 'next-generation' solar), land use intensification (urbanization, factory farming and fisheries), various forms of geoengineering, and other large-scale technological interventions that are controversial in their own right.[2] Since the 1960s, the Left, in contrast, has been dominated by growth-skeptical and localist currents (Illich 1973, Schumacher 1973).

More recently, ecomodernist developmentalism and calls for rapid, large-scale technological transformation have been taken up by ecosocialists, attached to political visions like a Green New Deal.[3] Programs commonly call for a rejuvenated role for public finance, state-led

economic planning, redistributive welfare, and the pairing of climate and racial justice (Aronoff et al. 2019, Pettifor 2019). Advocates may differ on their support for particular technologies and prescribed strategies and timelines for transcending capitalist growth imaginaries, however. Beyond a philosophical allegiance to discourses of abundance rather than limits, and a sense of the latter's real danger to the marginalized (Robbins 2019), ecosocialist programs for green jobs and just transitions face necessarily complex relationships with growth politics in the near term, as well as with extant patterns of racialized uneven development (Luke and Heynen 2020). In contrast, proponents of degrowth have advocated for a break from such centralized, technology-forward and neomodernist plans. Influentially advanced by ecological economists (e.g., Kallis 2011, Gómez-Baggethun 2019), articulations of degrowth argue for the reorganization of economies around sufficiency and reduced material throughput, while often restaging earlier environmentalist criticisms of Marxian modernism and alleged technological Prometheanism.

Recent debates over these visions (we refer especially to Robbins 2019 versus Gómez-Baggethun 2019, as a prominent if non-comprehensive expression of diverse stances) focus on scale/ing as a key area of disagreement. These debates carry important urban geographical implications, but ones that we suggest remain largely tacit. Robbins particularly critiques degrowth's rejection of large-scale, 'sophisticated' interventions, and advocates' arguments that such complexity disables possibilities for community control and conviviality. He points to the far-reaching scalar entanglements of modern life, including for actually existing degrowth experiments: for example, that initiatives like industrial cooperatives remain embedded in global production networks. He argues that given this pervasiveness of complex systems, vilifications of specific large-scale technologies such as nuclear power are overstated. However, adequate or

not as a defense of nuclear technology, it is notable that Robbins' argument stays in the sphere *of* the technological and does not overtly engage with urban geographical dynamics.[4] Yet such rejections of complexity and unmanageability (and, subtextually, plurality and difference beyond homogenous communities) are also familiar refrains in anti-urban discourses. In contexts like the United States, they have driven highly problematic politics of decentralization in the name of community control: for example, suburbanization and racially-economically exclusionary zoning. Robbins frames his commentary around rural livelihoods; Gómez-Baggethun's response makes little reference to concrete geographies at all. Framed in terms of overarching material limits, the argument makes only passing reference to the spaces in which those limits or their invocation might be negotiated, outside of the "frugal and egalitarian small-scale societies in which degrowth takes inspiration" (p. 3).[5] Other important degrowth calls similarly advance tacit anti-urbanism and more explicit stances against urban*ization*, in scalar arguments that seek "decentralization and relocalisation of the economy" (Kallis 2011, p. 4).

This abstraction from actually existing geographies and politics is a problem, particularly in an increasingly urbanized world. Degrowth's calls for decentralization usefully reinforce arguments for rural futures now being advanced by peasant and indigenous movements (Perkins 2019). They speak less well to existing cities and urban populations unevenly able or willing to go 'back to the land', or to the strains that fractured urban polities and the need for major infrastructural transformations place on direct democracy as a tool for just climate response. Yet other important policies prescribed by degrowth advocates, such as basic income guarantees and promotion of human services sectors such as healthcare and education (Kallis 2011) match those advocated by Green New Deal ecosocialists such as Aronoff et al. (2019). Moreover, some

variants of Green New Deal thinking explicitly advocate large-scale investment as a way to achieve a steady-state economy (Pettifor 2019, and see Mastini et al. 2021 for other recent moves toward reconciliation). However, Aronoff et al.'s public-facing text has an edge over the scholarly debate above in that it envisions propositions like new service economies as inherently spatial undertakings, that will and must roll out within existing places—frequently cities. Their call for 'public luxury' and shared infrastructure to replace private, throughput-intensive commodity consumption effectively requires a certain density of settlement.

We argue that critical scholarship must similarly question how propositions of green growth and degrowth hit the ground in cities and urban processes. Such analyses must be translational and imaginative given that many highly climate-relevant processes and interventions are still not overtly framed as such, an argument advanced by scholars (Bulkeley 2019) and by organizers themselves (Cohen 2017). Kallis (2011) has argued that "selective degrowth opens up a political debate about which extraction–production–consumption activities need to degrow and which ones need to grow" (p. 3). Expressed spatially, some infrastructures and parts of the built environment—and the relations they undergird and fix—absolutely must degrow while others need to be radically modernized (Holgerson and Warlenius 2016). However, these determinations cannot be made even at a first cut without reference to the material fabric, and problems, of the built environment in particular places, as well as the preexisting dynamics re/shaping (or making obdurate) these embedded landscapes and urban forms. They also cannot be made in the absence of questions of justice and obligation to those who inhabit these landscapes both now and in the future.[6] This argument suggests that while philosophical debates

about how best to scale societies and orient towards the future pose crucial dilemmas for contemporary climate politics, the solutions must be contextual and geographically specific.

The future(s) of urban densification?

Returning to the questions of urban density and densification as a climate response, we suggest that this heterogeneous condition and process presents a crucial lens for exploring how varying political models of climate response unfold in place. Across a range of contexts, the densification of existing cities has become a favored ecomodernist program for decarbonization. Now-mainstream (re)building programs speak to the supposed eco-efficiencies of concentrated urban forms, from energy savings due to district heating systems and advanced high-rise designs to walkability, bikeability, alignment with mass transit, and ease of provisioning. Densification initiatives speak particularly to the thorny problem of rethinking transportation in and through existing low-density cities and regions, within a broader 'return to the (central) city' in contexts such as the United States (Chapple 2014, Stehlin 2019). Significant proposals include transit-oriented development, whether through a focus on targeted redevelopment in dense nodes to align housing with transit networks/corridors or on broader enhanced verticality to make the logistics and economics of public transit and shared mobility better pencil out.

How might critical scholars interpret such densification initiatives within broader debates over green growth, decoupling, and degrowth? Appeals to eco-efficiency advance densification as an instrument of economic decoupling, but operational efficiencies are no cure-all. For example, they do not address broader urban metabolisms and emissions footprints, especially when linked to consumption (Cohen 2016, Knuth 2016). Likewise, they may handily roll out alongside urban

growth programs and speculative real estate development, part of a more comprehensive turn towards 'green' gentrification (e.g., Millington 2015, Anguelovski et al. 2019, Rice et al. 2019, Stehlin 2019). At first cut, densification seems to all-too-conveniently align with the interests of real estate investors and urban growth machines, as they seek to maximize rentier extractions through urban (re)development for 'highest and best use'. In the United States today, such calls have been fueled further by crises of property unaffordability in expensive cities, and the rise of YIMBY pro-growth coalitions that demand mass building programs as a response—with objectives including the elimination of building height restrictions, single-family zoning codes, mandatory parking minimums, and restrictions on backyard 'granny flats'. Some groups even claim a "PHIMBY" (Public Housing in My Back Yard) moniker, advocating large-scale, specifically public housing investment (Schneider 2018). Over the longer term, rentiers have demonstrated only a geographically selective and fitful interest in conserving or investing in the United States' urban built environments—often through the lens of aesthetic amenities—versus churning them for profit (including in the name of futurist modernization programs, past and present) (Knuth 2019, 2020; Tapp 2019). Left unchecked, these processes of uneven development, obsolescence, and wasting may sacrifice even the most dense and efficient urban spaces in the name of ongoing economic growth.

However, neither does densification have a *necessary* politics (and see again McFarlane 2016). Rather, it may rather be taken up by diverse types of programs in particular places and moments, including in the name of climate change mitigation. In the contemporary United States, ecosocialist Green New Deal visions such as Aronoff et al. (2019) present a different face of densification politics. These calls frame densification as part of a broader spectrum of

transformative urban interventions, from repairing and retrofitting existing buildings to expanding labor-intensive human services economies. Programs for an urban Green New Deal may support immediate economic and urban growth through major building and retrofitting programs, the creation of green collar jobs, or enhanced economic security for the marginalized. Over the longer term, the more durable urban fabrics and useful infrastructures that they (re)build may construct the material conditions for more radical liberations from urban growth and accumulation imperatives: public abundance. Concrete urban policies in support of such programs are being researched by institutions like Data for Progress (Harrison and Kraemer 2019), recommendations from which are now included in US policy proposals such as a Green New Deal for Public Housing. Many of these policies directly support densification, via new construction of dense, eco-efficient public housing and upzoning cities and neighborhoods for multifamily construction. Such policies work to undo harmful US urban legacies of decentralization, in the form of exclusionary zoning and low-density suburbanization. Others, such as major retrofits and repairs to the United States' existing, maintenance-starved public housing stock, seek to protect *existing* urban densities and livelihoods—and, crucially, working Americans' ability to access the environmental and social benefits of dense neighborhoods (Hayden 1980). Yet at the same time, they must grapple with the fact that the often automobile- and energy-intensive 'urban in-between' (Young and Keil 2014) of uneven densities, uses, infrastructural linkages, and politics in places like the United States now frequently does serve as an affordable space for recent immigrants, communities of color, and low-income residents.

Moving forward, critical scholarship and praxis on densification must consider the real limitations of existing urban form and fabric—from infrastructures that resist green repurposing

to buildings too poorly built or deteriorated for effective repair to inherited property boundaries that impede stitching fragmented landscapes back together with streets, paths, and public services. Crucially, the politics of interventions like densification remain largely illegible without reference to the specific urban fabrics and forms, climate exposures, histories of development (and abandonment, and redevelopment, gentrification and so on), in/formalization and more in which projects are necessarily embedded. In many contexts, given the constraints of the existing built environment, both ecosocialist and degrowth approaches would likely settle on building up subsidiary nodes in an urban-regional network of places, an approach not dissimilar to that of 'smart growth', but in principle less dependent on market demand. These projects will have varying significance depending upon how they are placed within broader programs of energy transition, sectoral creative destruction, and other regional political economies of development and would-be modernization. Are built environments in each context largely stable, or subject to more turbulent cycles of growth, abandonment, and rediscovery by capital? Are they characterized by major patterns of informal settlement, and preexisting programs for modernization and densification (and, often, displacement)? In many places, densification processes have been pro-cyclical, resulting in a pattern of maximizing density on buildable land in high-demand areas (intensive urbanization), while vast landscapes are locked into sprawling development patterns (extensive urbanization). Thus, the political economy of density is not unidirectional, and because of the durability of the built environment much of pro-density politics conflates having density with building density. Answers to questions and dilemmas like these will condition where urban densification and other climate-justified interventions in urban form 'fit' within broader growth imperatives and imagined futures—including as strategies for resisting or rethinking such programs.

Critical scholarship on growth, degrowth, scale, and other key questions must continue to explore these actually existing geographies and urban dimensions. Such initiatives illuminate the diverse material assumptions and future-orientations running through current climate-political projects. Moreover, they usefully suggest what projects such as green (de)growth can actually look and feel like. Temporarily setting aside questions of exchange value and capitalist economies of built environment production, we might accordingly question the *use values* of specific urban fabrics thereby revealed, and whether they are things 'with a future'. Should they be fostered, repaired and preserved, or do they require radical rebuilding and rethinking? These spatialized questions and transformations demand more sustained theorization, as they increasingly shape climate movement-building on the ground—felt necessities, foreclosures, loci of grievance, and possibilities present and imagined.

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[1] Despite important articulations with urban movements such as Spain's citizen *confluencias*. In pursuing new forms of direct democracy, these left populist urban experiments similarly valorize highly 'localist' reimaginings of cities and urban politics.

[2] A socialist version of this programme for a 'good Anthropocene' has also been articulated by writers like Leigh Phillips (2017).

[3]As Mastini et al. (2021) rightly point out, an ecosocialist re-skinning of mainstream ecomodernist versions of a Green New Deal that were circulated in the mid to late 2000s (and see Knuth 2014), among a range of earlier variants.

[4] Though elsewhere evidently if cautiously supports Asafu-Adjaye et al. (2015) on 'land-saving' agricultural intensification, in which urbanization via rural depopulation is an absent presence.

[5]Another recent and powerful critique of 'green growth' from Hickel and Kallis (2020) similarly remains at the level of global aggregates.

[6] For example, what we might call "uneven and combined degrowth" is already implicit in 'right-sizing' plans in cities like Detroit. These programs advocate withdrawing services from depopulating neighborhoods and concentrate resources on maintaining pockets of density, resulting in a (racialized) intensification rather than amelioration of existing uneven development (Safransky 2016).