Viewpoint

# Digital degrowth innovation: Less growth, more play

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In the article that launched this forum, Robbins (2020) describes a dairy farm in rural Wisconsin where human labor—farmers waking at 3 a.m. to milk cows in the freezing cold —has been replaced by a highly-efficient milk production system run by robots. Robbins's intention is to explore how labor-saving technologies, often associated with capitalist growth, might have a role in creating more livable and sustainable futures. While seeking compromise, Robbins's example seems to offer a binary choice: large-scale technological socialism, or the romance of green, technophobic local projects. Subsequent contributions to this forum further highlight the tensions that remain between primitivist and techno-optimist views in degrowth debates. Our research suggests many alternatives to this binary. Focusing on digital innovation, our aim in this contribution is to find common ground among degrowth factions, and between degrowth and socialist eco/modernist positions, while acknowledging areas of probable divergence and incompatibility.

In today's system of global industrial capitalism, technical innovation is both the driver and response to environmental crises. Economic growth-oriented development models necessitate innovation as a 'techno-fix'. With a profit motive, the apolitical hubris of industrial capitalism ultimately creates new crises that necessitate further innovation for profit. In challenging such a system, it is tempting to reject technical innovation as something that ultimately capitalizes on (or actively creates) crises. Rather than understanding innovation as part of a wider growth imperative, we argue that growth is an impediment to innovation. In a post-capitalist society, innovation can be untethered from the constraints and imperatives for economic growth. Whereas capitalist techno-fixes are leveraged in pursuit of economic growth and are reliant upon crises, we consider how degrowth innovations can enable political-technical strategies for more equitable human development, without an associated profit-incentive for crisis.

Some contributions to this forum differentiate degrowth from socialist eco/modernism based on the relative enthusiasm of each towards technology. As Kallis (2021), Paulson (2021) and Gómez-Baggethun (2020) have argued, advocates of socialist eco/modernism tend to oversimplify the degrowth position on technology, falsely implying that degrowthers uniformly reject 'modern' technology and digital innovation. However, puritan-primitivist cliques that are either agnostic or hostile towards innovation do have a presence in the degrowth movement. Even in the more techno-optimist branches of the degrowth movement, technology appears as something to be tolerated rather than actively embraced or pursued. Much of the recent degrowth literature repeats critiques of technology articulated by earlier thinkers like Charbonneau (1980), who understood that growth-motivated innovation destroys both Nature and human freedom. While physical infrastructure takes its toll on Nature, our 'smart' devices, for many degrowthers, have become synonymous with 'data-colonialism' and 'surveillance capitalism' (Zuboff, 2019) – the digital destroyers of human freedom. Digital communication and data-driven solutions become marketing platforms – a social and environmental scourge that should eventually prove redundant and disappear post-capitalism (Büscher, 2020). This position is problematic. Degrowth proponents argue that a post-growth society is inevitable. However, continued digital innovation is also inevitable. A transition towards more convivial online lives with degrowth or a descent into digital slavery are both possible outcomes when exiting the global market economy. But, as others have already argued in this forum, capitalism is the problem here, not technology.

Degrowthers should not give up on digital innovation while building exit strategies towards post-capitalist sustainability. Instead, alternative modes of digital connection must be expanded beyond capitalist 'sharing economy' apps and social media advertising platforms to facilitate degrowth projects. Blockchain—an append-only, distributed, digital database used to facilitate cryptocurrencies and automated transactions without the need for third-party intermediaries, like banks and regulators—is an especially promising technology. Examples from our recent work include blockchain-based basic income schemes and distributed energy microgrids (Howson, 2021), food-sharing apps and platform

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cooperatives (Crandall, 2019), and decentralized community currencies (Balaguer Rasillo, 2020). Rejecting the degrowth position, Huber (2021) and Luque-Lora (2021) argue for continued technological progress that results in material improvements for human well-being by reducing labor requirements. The technological alternatives we have explored are not oriented exclusively around reducing labor, but that does not make them frivolous. As Russell (2020) explains, much of our everyday work and play, especially in the Global North, is carried out via a display and keyboard. Our online lives, however insincere or fantastical, are rarely separable from the lives we lead 'away from keyboard'. Although dystopian outcomes are inevitable with online lives curated through growth-orientated global capitalism, digital lives with degrowth can be more meaningful. Where insurrections fail in real life (IRL), popular destabilizations of market capitalism can take place through our digital avatars. Where IRL efforts fail in contesting neoliberal interests, online movements, such as Anonymous, Sci-Hub, RogueNASA and Wall-StreetBets, exemplify the potential for digital resistance. "This is where we bloom", says Russell (2020: 117). Such destabilizations (or 'glitches'), are fantastical, playful and experimental via the internet, until we become our post-capitalist avatars IRL. Hidden transcripts of resistance morph into something bigger and more confident through our online personas. These avatars, online communities, and social movements can talk back to toxic, binary tropes inherent in capitalist understandings of gender, race, and sexuality. Rejecting the emancipatory degrowth potential of the internet based on technophobic thinking is, we think, a mistake.

Robbins explains that the driver of automation and labor-saving technologies in a modern economy is thirst for human connection. The Wisconsin dairy farmer has more time to spend with his grandchildren, thanks to automated agricultural technologies. Unfortunately, due to the same patterns of capitalist automation, the grandchildren, immersed in the latest YouTube videos and TikTok trends, may not want more time with him. Digital media and internet-based platforms are reframing social experiences in often contradictory ways. For example, YouTube has served as a knowledge-sharing platform where one can learn useful new skills. Yet YouTube's auto-play algorithm, designed to keep viewers watching and ad revenue climbing, has been linked to far-right extremism and white supremacy (Lewis, 2018). Critical scrutiny is therefore required to ensure that applications provide possible templates for resistance and transformation towards post-capitalist digital relations. Social pressures and anonymity behind the keyboard mean the internet may always remain a place where hate-speech exists. However, its proliferation can be lessened and de-platformed if diverse social and cultural values, rather than financial growth values, are prioritized in the design of algorithms.

The economic rationalism of 'full employment' appears a fundamental driver for both socialist eco/modernism and degrowth. Both camps share Graeber's (2018) logic: no capitalist technology, no bullshit jobs. Workers can be liberated from unnecessary toil. We can shorten the working week, distribute income and wealth more fairly, and invest in public goods like universal healthcare, education, and affordable housing (Hickel, 2020). Liberation from toil will further increase degrowth innovation. Within a capitalist framework, intentional inefficiencies and waste (of time, energy, and resources), including planned obsolescence, are integral to technology. Moreover, techno-capitalist solutions to the 'digital divide' reflect the ulterior motives of corporations, which provide free or low-cost internet services in under-served areas in exchange for viewing users as data-points or future consumers (Crandall, 2019). Within a degrowth framework, in contrast, digital innovation is decoupled from capitalist throttles and ulterior motives, and progressive technologies can benefit more of the population.

A technology's emancipatory potential for success is highly dependent upon local capacities and existing socio-cultural and political factors. Digital technology projects that are global in scope are promoted often as a *mission civilisatrice,* to enable appropriations of land, labor,

data, and other resources to serve capitalist interests (Howson, 2020). Without scrutiny, these technologies are always a potential Trojan horse. They can create oppressive class formations and can become a colonizing force where specific racial groups are targeted for experimentation. Open-source platforms, built by well-meaning degrowthers, might also be co-opted and might evolve into oppressive rule-based systems, or 'blockocracies' as Kavanagh and Ennis (2020) describe them. These would of course not be examples of convivial degrowth outcomes. Therefore, the advancements of digital platforms will always leave political ecologists with a lot of critical work to do. Blockocracies are the shadows of bad data-driven dystopias that will always need chasing away, as Robbins puts it. Paulson (this forum) is also right to question the colonizing potential of degrowth experiments, as well as that of grand-planning modernism. Favoring a pluralism of values, a growing coalition of degrowthers are thus aiming to transform degrowth into a scaled-up international field, bridging networks of social and environmental justice movements.

We must acknowledge that while internet communication allows us to scale up and connect across geographical borders, certain technological strategies may not be successfully replicable across all contexts. This demands political ecology research that engages with site-specific digital innovations to enable more equitable local outcomes. In Barcelona, for instance, grassroots community groups have been innovating and using digital degrowth tools as alternatives to capitalist modes of exchange. Catalonia's FairCoop, has been experimenting with a blockchain-based activist cryptocurrency, FairCoin. The project enables further networking with other European hacktivist groups (Balaguer Rasillo, 2020). However, in Puerto Rico, similar cryptocurrency developments are being imposed as a neoliberal techno-fix for a public debt crisis and a means toward economic growth. In response, platform cooperatives are emerging that bridge 'high tech' web-based coordinating platforms with 'low-tech' community-oriented projects championed by women-led solidarity movements for sustainable agriculture and renewable energy. Unfettered economic growth is not the imperative here, but rather 'enough for all' (Crandall, 2019). Locally practicable strategies for equitable organization, operation, and ownership are critically important to prevent digital innovations from being co-opted by techno-capitalist forces.

As Robbins suggests, degrowth horizons will probably always feature composting toilets, local currencies, and bike repair cooperatives. Indeed, there is broad acceptance of these proclaimed degrowth technologies even by those who do not explicitly espouse a degrowth position. 'Frugal abundance', 'convivial conservation', 'ecofeminist sufficiency', 'prosperity without growth', and 'doughnut economics' are concepts used by many scholars and activists to describe what alternative post-growth futures might look like. Some of these proponents are explicitly sympathetic towards alternatives to growth-orientated futures, but reject the degrowth label for being technophobic, overly negative, and uninspiring. We should not frame degrowth, environmental justice, *buen vivir*, community economies, cooperatives, recommoning and other related concepts, as oppositional to each other. The point is not to find a single label, but rather to create broadly popular political strategies to tackle growth-induced environmental crises.

In sum, creative digital applications offer a way forward by catalyzing and coordinating popular interest towards sustainable degrowth. Luque-Lora (2021) suggests that degrowth's commitment to building new institutions for moving towards sustainable post-capitalist societies is politically unfeasible. But digital innovations are helping to facilitate the reform of political institutions that can make degrowth practicable. Robbins's suggestion to hybridize the composting efforts of degrowth with the grandeur of socialist eco/modernist experiments is one way of imagining an alternative techno-optimist approach. But such a merger would need to avoid falling into the realm of apolitical fundamentalist fantasy. Digital technologies, including blockchain, are always encoded with certain interests and are always at risk of co-optation by capital. It

is up to political ecologist to pick apart those interests and to demand more equitable outcomes.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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