

Innovate or Die

Mario Pansera

Technological development is often regarded as a natural product of human ingenuity that should never be halted or steered. But innovation can also compound social and environmental impacts. Can degrowth redirect technology towards inclusive, environmentally conscious transformation?

The idea that innovation is key to economic growth is deeply rooted in our society. The number of annual patents a country produces is often assumed to reflect its wealth. It is expected, meanwhile, that successful companies will promote a culture of constant innovation in order to survive in a highly competitive market. Innovation is also associated with a range of positive qualities: creativity, autonomy, flexibility, adaptability, and resilience.



Foto de [Kvalifik](#) en [Unsplash](#)

But this exclusively positive framing of technology ignores that innovation, besides improving quality of life, can reinforce existing structures of power and oppression, and compound environmental damage. New narratives are needed to broaden the scope of the concept of innovation. It should be understood not just as a matter of new technologies being developed, but as a process involving cultural and institutional change, as well as a transformation of life and social order.

Innovation, besides improving quality of life, can reinforce existing structures of power and oppression, and compound environmental damage.

Science and technical change have already existed in societies that did not pursue economic growth and will continue to exist in future non-growth societies.

Growth consensus

The argument that the pursuit of prosperity entails that of infinite economic growth dates back to the post-World War II era. Unprecedented development in science and technology generated a constant flow of new products and services, materials, and processes, laying the foundations of the modern-day consumer society. The sense that technological progress was constantly accelerating fed the collective imagination to the point that in the 1950s, many believed that humans would soon be walking on Mars or building bases on the Moon.

Environmental movements in the 1960s began expressing concerns about the risks associated with the excessive use of science and technology to increase industrial and agricultural productivity. An example of this is Rachel Carson's book *Silent Spring* (1962), which warned about the increasing use of pesticides and chemical fertilisers in modern agriculture. However, when the landmark *Limits to Growth* report was published in 1972 – the first document of its kind to warn of the peril of, among others, over-industrialisation and resource use – most economists tried to discredit it. The consensus was that science and technology would allow us to overcome any constraints to economic growth arising from the planet's biophysical limits – a position that is still prevalent today.

In recent decades, the mainstream economics view that innovation should continue unconstrained has been complemented by an emphasis on creating networks and interactions between public and private institutions to foster innovation. National and regional governments compete to design increasingly attractive programs to boost innovation capabilities, while the European Union's Horizon 2020 research program dedicates a considerable portion of its budget to fostering innovation among its members.

These initiatives are based on the belief that the harms done by innovation and technological change are outweighed by the social benefits; that innovation creates a greater number of better and more satisfying jobs; that it allows for greater social mobility and better distribution of wealth; that more innovation means more economic growth; and that innovation is necessary to address the grand challenges facing humanity, such as climate change, poverty, or global health crises.

Illusions of technological determinism

But these assumptions rely on notions of technological determinism and productivism. Technological determinism is the idea that technological innovations emerge spontaneously given the “right conditions”: market competition, business values and culture, strict intellectual property laws, and liberal democracy. Furthermore, determinism interprets technological development as a linear evolution from simpler artefacts and systems to increasingly complex ones.

However, science, technology and society (STS) studies have shown that this linear interpretation is problematic.

Technical change, far from being a neutral and autonomous process, reflects the values, ideologies, and worldviews of the society in which it develops. Technological progress is historically determined, but not deterministic. This means there is no predictable trajectory that technology must follow in its evolution. Instead, technology advances through a series of forward leaps and periods of stagnation. STS studies show that multiple paths of technological change often coexist. However, some of these paths may become hegemonic due to complex political, cultural, and socioeconomic dynamics.

Discourses on the inevitability of technological change and the superiority of Western technology are used to impose changes on the production systems of (former) colonies.

Once this happens, a process of naturalisation begins, whereby a certain path of technological development is perceived as the inevitable progress of human ingenuity. But what appears as “natural” is often the result of converging interests, asymmetrical power relations, and, in many cases, systems of domination and violence. This is why discourses on the inevitability of technological change and the superiority of Western technology are sometimes used instrumentally to impose changes on the production systems of (former) colonies in a way that benefits colonial powers only.

Paradoxes of productivism

The second problematic assumption related to innovation is that it always leads to economic prosperity – creating new jobs and more efficient products and services – and should therefore be considered good in itself. Yet although innovation has brought numerous benefits to contemporary society, it has also generated a series of paradoxes and tensions.

For example, innovation is seen as a source of economic growth and competitiveness, but it can also lead to job insecurity and social inequality. New technologies and automation can lead to job losses in certain sectors while creating new opportunities in others. This can result in a mismatch between the skills required by new jobs and those

Platforms like Uber or Airbnb grant independence to users and workers, while from another they erode workers’ rights, drive gentrification in cities, and increase inequalities.

possessed by displaced workers. Moreover, the benefits of innovation are not always evenly distributed. From one angle, platforms like Uber or Airbnb grant independence to users and workers, while from another they erode workers’ rights, drive gentrification in cities, and increase inequalities.

Another paradox is that while innovation is often seen as a solution to environmental problems, it can also contribute to environmental degradation through resource consumption and waste generation. Examples include projects for wind and solar “gigafarms” in Europe, which can disrupt the natural landscape and threaten wildlife.

Moreover, the emphasis on continuous innovation and economic growth can create a culture of overconsumption, where the constant pursuit of new and better products leads to unsustainable levels of resource use and waste generation. The dramatic consequences of this are visible in the neighbourhood of Accra, in Ghana, where masses of e-waste from Europe wait to be processed by children and other vulnerable groups.

Finally, while innovation is often seen as a source of empowerment and autonomy, it can also lead to increased control and surveillance. For example, the development of new technologies such as big data and artificial intelligence can enable states and private organisations to monitor and control the behaviour of individuals in unprecedented ways. This can lead to increased surveillance and control, undermining individual autonomy and privacy. For instance, the AI software “Lavender”, utilised by the Israeli army to automatically identify and eliminate suspected terrorists, has resulted in countless civilian casualties during the ongoing genocide in Gaza.

Innovation beyond growth

Technological determinism and productivism are views that prevent the understanding of innovation as a process constructed by society, culture, and politics. Technological determinism denies the inherent plurality of any innovation

In the 1970s, a view emerged that technological development should be reoriented away from economic growth, and towards social justice, freedom, and ecological balance.

process and its multiple and diverse potential outcomes, while the productivist position ignores the political questions surrounding it. For example, who decides what is good or bad? Who wins and who loses when an innovation is introduced, and through what mechanisms of power?

In the 1970s, a view emerged that technological development should be reoriented away from economic growth, and towards social justice, freedom, and ecological balance. Among the advocates of this was philosopher Ivan Illich, whose *Tools for Conviviality* (1973) explicitly analysed the threat of uncontrolled economic expansion fuelled by technological advances. The view was also reflected in economist Ernst Friedrich Schumacher's notion of "appropriate technologies", philosopher André Gorz's book *Ecology as Politics* (1978), and Murray Bookchin's idea of "liberatory technology".

Illich argues in *Tools for Conviviality* that technological growth can reach a point whereby it becomes incompatible with planetary sustainability. He points out the threats of excessive growth, including biological degradation, radical monopoly, polarisation, and obsolescence. To counter these threats, Illich argues for "convivial technology", which refers to technologies that preserve or enhance ecosystems, "enable user autonomy and control, disrupt unequal power relationships, and are robust and durable".

Abandoning pro-growth innovations in favour of goal-oriented convivial technologies does not mean "going back to the caves" or taking up technophobic positions. On the contrary, it implies rethinking what science and technology should be: not engines of endless material growth, but instruments to improve out wellbeing. A concrete example of this alternative view of technology is the Lucas Plan. In the mid-1970s, thousands of jobs at Lucas Aerospace, a British aircraft manufacturer, were slated to be cut, in large part because technological changes in the industry were rendering workers' skills redundant. In response, workers led by shop stewards from the Transport and General Workers' Union and Amalgamated Union of Engineering Workers, devised an alternative corporate plan focusing on socially useful and environmentally sustainable products.

The plan included innovations such as wind turbines, hybrid cars, and medical devices designed to serve local and regional markets. It showcased an early example of worker-led initiatives aimed at industrial democracy and a green economy. Despite its ingenuity and the widespread support it garnered among labour and environmental groups, the

Innovation is not an inherently beneficial process – it produces winners and losers.

plan was ultimately rejected by both the company management and the UK government. A half-century later the Lucas Plan still stands as a monument to an alternative mode of innovating and organising production that could be replicated at multiple levels in the EU.

Creativity, care and repair

The period since the post-World War II boom is proof that innovation is not an inherently beneficial process – it produces winners and losers. And for more than 70 years, technology and innovation have been at the service of expansionist capitalism in industrial societies.

Yet this is neither the only, nor the most desirable, way to understand technology and its role in society. In fact, it is possible for innovation to achieve socially useful outcomes without being subordinated to the imperative of economic growth. To do so requires abandoning technological determinism and productivism and imagining new forms of

innovation not supported by the need for valorisation. Today, researchers, practitioners, and activists within the emerging post-growth movement are striving to envision a culture of innovation rooted in creativity, care, repair, and maintenance.

Related links:

- The Jus Semper Global Alliance
 - Álvaro J. de Regil: [The Unbearable Unawareness of our Ecological Existential Crisis](#)
 - Álvaro J. de Regil: [Transitioning to Geocratia the People and Planet and Not the Market Paradigm — First Steps](#)
 - Jason Hickel: [On Technology and Degrowth](#)
 - Joseph J. Merz et al.: [World scientists' warning: The behavioural crisis driving ecological overshoot](#)
 - Corey J. A. Bradshaw et al.: [Underestimating the Challenges of Avoiding a Ghastly Future](#)
 - Juan Bordera: [El decrecimiento a debate en el corazón de la bestia](#)
 - Access Now: [Human Rights in the Age of Artificial Intelligence](#)
 - Stephen Sterling: [Educating for the Future We Want](#)
 - Jonathan Rowson: [Bildung in the Twenty-First Century – Why sustainable prosperity depends upon reimagining education](#)
-

❖ **About Jus Semper:** The Jus Semper Global Alliance aims to contribute to achieving a sustainable ethos of social justice in the world, where all communities live in truly democratic environments that provide full enjoyment of human rights and sustainable living standards in accordance with human dignity. To accomplish this, it contributes to the liberalisation of the democratic institutions of society that have been captured by the owners of the market. With that purpose, it is devoted to research and analysis to provoke the awareness and critical thinking to generate ideas for a transformative vision to materialise the truly democratic and sustainable paradigm of People and Planet and NOT of the market.



❖ **About the author: Mario Pansera** teaches at the University of Vigo. His work focuses on responsible research and innovation (RRI) and innovation for degrowth. Winner of a Starting Grant from the ERC, he will form his own research group on the Pontevedra campus. Since this month he has been a member of the strategic group Ecobas, with whom he has been collaborating for some time now.

❖ **About this Brief:** “Innovate or Die” was originally published in English by [Green European Journal](#) in June 2024. This paper has been published under Creative Commons, CC-BY-NC-ND 4.0. You are welcome to reproduce the material for non-commercial use, crediting the author and the [original publishers](#).

❖ **Quote this paper as:** Mario Pansera — Innovate or Die — The Jus Semper Global Alliance, December 2024.

❖ **Tags:** capitalism, democracy, economy, ecology, degrowth, sustainable development, wellbeing, social justice.

❖ The responsibility for opinions expressed in this work rests only with the author(s), and its publication does not necessarily constitute an endorsement by The Jus Semper Global Alliance.



Under Creative Commons Attribution 4.0 License
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

© 2024. The Jus Semper Global Alliance
Portal on the net: <https://www.jussemper.org/>
e-mail: informa@jussemper.org