

Mario Pansera explores the complex relationship between capitalism, sustainability, and technology. He argues that technology is not inherently imperialistic or sustainable, but deeply shaped by social, political, and historical contexts. In his view, degrowth communities often oversimplify technology as either convivial or not, missing its systemic nature. According to Pansera, true transformation requires democratic engagement and collective decision-making about the kind of society we want, with technology serving as a means – not the driver – of that vision. In this interview, Pansera also talks about care and explains why he believes that caring is more important than innovation. He also discusses how convivial technology can help us understand who we are.

**Andrea Vetter (AV): Given the current capitalist set-up of societies worldwide, are there any options for deeply sustainable technologies at all? Or is every emerging technology inevitably imperialistic?**

First of all, we need to unpack this question that refers to at least three challenging concepts. One is capitalism. If you ask ten different people, you will probably get ten different answers. What is capitalism? Is it an industrial mode of production, is it a social relation, is it an international political order? We cannot untangle all of this here, of course. But many people in the degrowth community, for example, think that capitalism equals industrial production. But then, Ivan Illich, when envisioning ‘convivial tools’, was actually not against industrial production per se. Then, is a country like China capitalist or not? There is a lot of industrial production in China and a lot of non-convivial technology, but I would not

INTERVIEW

*with/mit Mario Pansera  
by/von Andrea Vetter and/  
und Krishna Ravi Srinivas*

*Technology,  
capitalism,  
and  
conviviality*

*Technik, Kapitalismus  
und Konvivialität*

categorize it as a capitalist system. Some analysts also argue that we are moving away from capitalism into a new era of techno-feudalism.

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The second concept we need to unpack is sustainability. Sustainability is actually a very modern concept. The idea of sustainable development was born in forest management in Germany. So, it’s already connected to something that we manage. We now have different forms of viewing sustainability in degrowth. We also have

some inspiration by post-development scholarship and its vision to go beyond Eurocentric paradigms. And at the end of the day, we also have to ask ourselves: sustainable for what? We need to sustain something. We want to sustain life. But what life? Whose life? Human beings or animals, or all forms of life? To what extent? Who has the right to decide? This makes for endless discussions.

The third concept that needs to be untangled is technology. What is technology? This is also very controversial. Is technology this spoon? Or this laptop through which we are talking? Or is it us connected to artefacts? Even in the degrowth community, you still have people basically saying that if you just replace cars with bikes all is fine. Even a community that is anti-capitalist, pro-sustainability, pro-convivial technology still misses the point of technology, they still don’t know what technology is.

When I got my grant from European Research Council (ERC)<sup>1</sup> five years ago, my original plan was thus to combine science, technology and society studies (STS) with the ecological economics of degrowth. Let’s talk about what technology really is and why technology is so entangled with capitalism and imperialism. Stating that a bike is by nature a degrowth technology completely misses the point. Technology is not just one artefact or one collection of artefacts, but a complex mesh or network of interconnected artefacts, social systems, people, cultural factors, and so on.

This is easily said, but very complex to study. The degrowth community, especially its ecological economics scholars still have a too positivistic conception

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of technology. Parts of the neo-Marxist or eco-socialist community also fail in the sense that they don't take it important enough. Other people really got the point that transformation is not just about sustainability. It is about a complex vision of society that has to do with democracy, of course, but also with lock-ins, with present systems' path-dependencies, with their histories, with their interconnections. It's not just about replacing cars with bikes.

In the degrowth community, many of us still focus only on: What is convivial, what is not convivial? And that's okay. But what's next? We cannot just divide the world into convivial and non-convivial technologies. We won't have convivial technologies, assuming that we all agree here what convivial technologies are, and magically, the world will be a degrowth world in which women and all genders and all minorities are respected, all military conflicts and genocides stop, etc. It doesn't work like that.

**Krishna Ravi Srinivas (KRS): But what is the role of technology in this?**

This is another huge question. In the last ten years, I've been reading a lot of Andrew Feenberg's work and all the literature on democracy and technology. Feenberg basically argues that technology is something that emerges from human relations. This also speaks to the original idea of Ivan Illich that convivial tools make people work together. The role of technology is thus a secondary one compared to us as human groups or as a society, localized in a specific context, having the power to come together and decide what kind of society we want to live in. This sounds abstract, but it actually happens all the time, when we, for instance, go to elections or decide something at the city council level. It is all about people coming together and asking: How do we want to live? What is the society that we want to live in? Is it a society in which people are fully surveilled and controlled, in which immigrants are unwanted, is it a society in which women are confined to working at home? And whatever we decide upon, how can we

achieve it? Technology is one means to such ends. And it has a historical dimension. The decisions that we are making now are based on viable technology, viable science, viable social relations, social power, and so on. But every time we are making decisions about technologies, we are imagining something, we are making futures.

Everybody is now living in a world that an engineer or a planner (usually a white middle age male guy) has imagined many years ago. The point about technology is:

*Every time we are making decisions about technologies, we are imagining something, we are making futures.*

Who is able, entitled and has the power to make these decisions? It's not just about, 'Okay, let's work on energy that is less impactful', or 'we prefer nuclear power to windmills'. It's about what kind of soci-



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ety nuclear power will require, enable or disable. This is also directly connected to Langdon Winner's work and the STS tradition of how social options are opened or closed according to technological choices we make.

**KRS: What could that mean specifically for technology assessment?**

A message for technology assessment practitioners could be to focus more on how technologies create futures. Do we outsource this core aspect to technocrats

or do we want to experiment with new forms of social participation? Moreover, we sometimes have extremely polarized positions, people saying that we need to get rid of all technology, as if getting rid of all technology means automatically getting rid of all the violence and social structure that has led to that kind of technology. You see recurring movements of techno-escapism and recurring arguments of techno-optimism. But what are the instruments to create radical democracy in which technology is one element of the kind of society that we collectively desire. And yet more complex: What is this collective? Who is this group? It is a nested problem that needs to be disentangled and expanded.

**AV: Isn't the decision also less about high-tech or low-tech or no-tech, but rather about the role of existing technology? As you said before, we live in an environment that somebody engineered many years ago. I wonder if our thinking about convivial technology might still be informed by visions to create a new, perfect world, completely at odds with what we actually need now, with all these trillions of things?**

Again, this is a very important, but also challenging question. First, 'innova-

tion' is yet another prominent buzzword. The concept is a modern invention that we use like 'sustainable development', like 'economic growth', essentially colonial language to dominate people. In this regard, I really like this idea of 'The innovation delusion', a book written by Lee Vinsel and Andrew Russell. It is not really pro-degrowth, it is rather a-political, I would say. But the authors make a very important point: We do need innovation in our lives. We need better transportation and energy supply, we need better artefacts, medical devices and drugs. But what we need most is care. They call it 'maintenance', which is an engineering term, but basically, it's about care. From that perspective, one can start reconsidering one's whole life: What was the last time that you got a fantastic idea that you published in a top journal? These are only single instants, millisecond of our lives, while once you create something, or once you have an idea, you have to care for that idea. 99,9% of our time, of our life, is not spent on innovating. It's spent on caring. This morning I woke up, I made breakfast for my kids, I got a shower and so on. The rest of the day I will do something similar, I will probably meet with friends, water the garden. All this is about care, not about innovation. So, why are we so obsessed with it?

*Once you have an idea, you have to care for that idea.*

This also goes back to your initial question about technology and imperialism. The way innovation is overemphasized relates to a dominant class, an elite benefiting from this 0.1% of human activity, which is creativity and innovation. Otherwise all the systems, the treadmills of endless growth and expansion would collapse. Innovation, as I claimed in my PhD thesis, emerged as a discourse in the 1970s and then started permeating all aspects of our life. This was also the moment when neoliberal thinking became dominant. You need to be innovative as a

teacher, researcher, artist, musician. This comes with ramifications for all the aspects we study in degrowth. Imaginaries, discourse, the idea of modernity, the idea of progress. Overall, we are so obsessed with innovation because its pursuit has served the interest of a very powerful dominant elite.

*Imagine that we stop today and we magically create a degrowth world. We will still have to care for the ruins of capitalism.*

Innovation is totally fine as such. The point is that we need to rebalance. I recently visited Naples with my kids. There is a cistern where the old Roman fleets had their main military base. And the Romans built an enormous, incredible water tank that is almost 200 kilometers away from its water source, the Piscina Mirabilis. It was an incredible engineering achievement. The system is still working today. During the visit the guide said: "Do you know what the secret of this place is? It's not human ingenuity, although the Romans were brilliant engineers. The secret is maintenance. It's taking care of what you already have." So,

imagine that we stop today and we magically create a degrowth world. We will still have to care for the ruins of capitalism. Nuclear plants will be abandoned and we cannot just leave them like that. All the marine cables that are connecting us, they will remain there. Who is going to take care of all this stuff? This is the current challenge for degrowth and post-growth.

So, the most important dimension is care, which is more than maintenance. Maintenance is an engineering practice that requires skills and also comes with

a gender division. Care is not just about skills, it's also about love. You care about your kids because you love them. You can care about your mobile phone even though you don't have the technical skills. You can also love an artefact. I'm a pianist, so I love my piano. We need to work on how we can create technological systems

based on care, even if there will always be a percentage of our time dedicated to innovating. This approach is also less depressing in terms of narrative and imaginaries than the idea of degrowth as a reduction. When I talk to my father, who is not well-read in degrowth, and I say, 'look, degrowth is about taking care; that is exactly what you're doing with your vegetable garden', he immediately understands.

**KRS: One way to look at care might also entail steering away from planned obsolescence or throwaway consumption attitudes and patterns.**

With obsolescence, the democratic dimension is important: How do we put care into the design of systems? In our lab, we have projects on the right to repair. What I find super interesting is that calls for maintenance and care in technology are transversal: they come up among alternative hippie communities in Berlin, in Fab Labs; but, also, among rednecks in the US who complain that they cannot fix their tractors because of the newly installed hardware keys; among US soldiers in Afghanistan who need their screen to be repaired, but don't have the license to do that. Unfortunately, the general left refuses to engage with this diversity. With this refusal and denial, we are missing out on a lot of possibilities to create alliances. We need to understand that an important movement like the right to repair movement is composed of a lot of people with different aspirations but with a shared

care for or love of tinkering, or technology, or whatever. That does not necessarily mean that they all also share the opinion that technology should enable a democratic and inclusive world. But it's important to see that not everything has to be confrontational all the time. It's not always us versus the others.

Another important aspect with planned obsolescence is that we are losing democratically legitimized power. Here in Spain we have a consortium of companies, basically plastic producers, glass bottle producers, and manufacturing industry in charge of recycling. They are all against the returning and recycling of empty bottles as implemented for instance in Germany. And even after six years of socialist government that officially is pro-recycling, they are still not able to implement it in Spain. This speaks once more to a problem with democracy and how democracies can make things happen.

**KRS: Can you relate this more closely to the idea of conviviality technology?**

It reminds me a bit of a famous poem Utopía by Eduardo Galeano, of the idea that utopia is something that you want to reach, but will never reach, and the idea is to keep walking. And this, for me, applies also to convivial technology. For instance, your matrix of convivial technology, Andrea, is super detailed and also very difficult to put into practice, but that's not the main point. The main point is to make us reflect and act on what we can do and to keep moving. Apart from the concept of convivial technology being a very strong political and analytical tool to understand that technology is not neutral. Probably it's not possible to have 100% convivial technology in the ideal sense, a technology that won't kill any animal, that won't destroy any life form, that won't disrupt any form of nature. It is more about our imaginaries.

I constantly have students telling me they want to make a convivial technology. But that's missing the point. It's not about trading an artefact that is not convivial with a fully convivial one. Convivial technology should also not be taught or presented as a set of instructions. It's about understanding who we are, what kind of life we want to live. For me, this is much more powerful than just a mere manual on how to make a solar pump, or whatever kind of fancy, frugal technology. It's more like Tarots. You don't actually use them to predict your future, but to reflect about yourself, your aspirations, your fears, you hope for a better future.

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Liebe Leserinnen und Leser,

vielen Dank, dass Sie TATuP – Zeitschrift für Technikfolgenabschätzung in Theorie und Praxis durch das Jahr 2025 begleitet haben. Im neuen Jahr bringt TATuP Ihnen u. a. Special topics zu „TA und zukünftige Kriegsführung“, „Erforschung von Technologien durch imaginäre Welten“ und „Partizipative TA“.

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Dear readers,

thank you for having followed TATuP – Journal for Technology Assessment in Theory and Practice throughout the year 2025. Among other contents, TATuP will bring to you in the new year Special topics on “TA and future warfare”, “Exploring technologies through imaginary worlds”, and “Participatory TA”.

Editorial team, editorial board and oekom verlag wish you a healthy and successful year 2026!

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