

# Navigating the paradox of social development: intersections of technology, exploitation, and sustainable welfare

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**ABSTRACT:** This paper explores the multifaceted concept of social development within economically advanced countries, delving into the implicit assumption of technological advancement as a cornerstone for well-functioning economies. While digital technologies shape broad socio-economic processes, a counterfactual perspective emerges when examining social development through the lens of (nature-based) social welfare. The analysis encompasses the coexistence of advanced technologies with disparities in living standards, resource appropriation mechanisms impacting both populations and environments, and the underexplored negative consequences of techno-economic development. The article addresses the visible and invisible impacts of information technologies, emphasising issues of labour exploitation, resource extraction practices, and the environmental costs of digital production. Critically assessing optimistic scenarios, the paper suggests the need to broaden discussions beyond the positive aspects of technology, considering the challenges for sustainable welfare posed by exploitative labour, resource extraction, and inequitable benefits. The study advocates for an inclusive approach to (nature-based) social welfare, encompassing marginalised issues and proposing concepts such as degrowth as potential solutions to the rapid development of information technologies and their societal implications.

**KEYWORDS:** social development, technological advancement, social welfare, digital technologies, exploitation, resource appropriation, environmental sustainability, degrowth

## INTRODUCTION

The concept of social development, frequently synonymous with economic growth as discussed by Baranowski (2019a, 2022), remains a focal point in academic discourse, particularly within the context of economically advanced countries (Hayami & Godo, 2005; Kuznets, 1973; Rostow, 2000). An underlying assumption in this discourse is technological development's pivotal role in fostering well-functioning economies (Castells, 1999; Dolata, 2013). Notably, in recent decades, the landscape of social development has been significantly shaped by the pervasive influence of digital technologies (not to mention the 'generative artificial intelligence' fever).

Digital technologies, characterised by their rapid evolution and widespread integration, have become catalysts for transformative socio-economic processes. The intricate interplay between technological advancement and societal progress has propelled nations into an era where information and communication technologies (ICTs) act as 'linchpins' in shaping economic landscapes. As societies navigate the complexities of the contemporary world, the seamless functioning of these technologies becomes indispensable (in some cases, in a counterfactual manner; see DeStefano, 2023).

### SUSTAINABLE WELFARE: A HOLISTIC PERSPECTIVE

However, it is essential to recognise that the successful implementation and utilisation of digital technologies are contingent upon the presence of advanced transmission networks and electronic devices that align with the evolving standards of ICTs. The symbiotic relationship between technological progress, economic development, and (nature-based) social welfare necessitates a holistic understanding of the intricate dynamics at play. I refer to this as sustainable welfare, broadly defined as "satisfying human needs within planetary boundaries" (Hirvilammi & Koch, 2020, p. 2). However, I propose taking a more sociological/environmental view of this phenomenon, for example, by recognising the intricate relationships between social and ecological systems. Sustainable welfare should not only focus on meeting human needs but also acknowledge the dependencies and impacts on the environment. Emphasise the need for an integrated approach that considers both (a) welfare and (b) well-being (and their opposites) (Baranowski, 2019a) of both human societies and the ecosystems they inhabit (Baranowski, 2022). Ultimately, sustainable welfare is a shared responsibility that requires international efforts to address global challenges such as climate change, biodiversity loss, and social inequalities.

### CHALLENGES IN ICT INTEGRATION

Moreover, the integration of ICTs introduces multifaceted challenges, ranging from issues of a digital divide to concerns about data security and privacy. Scholars and policymakers alike are tasked with addressing these complexities to ensure that the benefits of technological progress are equitably distributed, fostering inclusive and sustainable social development.

The nexus between social development and technological advancement remains a

cornerstone of contemporary academic discourse. As societies grapple with the implications of an increasingly digitalised world, a nuanced understanding of the reciprocal relationship between technological development, economic growth, and social welfare is imperative for informed policymaking and sustainable progress (abstracting from the stripped-down meaning of the word ‘sustainable’).

### COUNTERFACTUAL VIEW ON SOCIAL DEVELOPMENT

On the contrary, an alternative and counterfactual perspective emerges when examining social development through the prism of (nature-based) social welfare (Baranowski, 2019a, 2022). While acknowledging the transformative impact of new technologies on various facets of human society, the situation takes unexpected turns, as exemplified in Brazil, where, despite 97% of households possessing televisions, there remains a deficiency in basic amenities such as adequate sanitation (Dowbor, 2017, p. 13). Similarly, technologically advanced societies coexist with comparatively modest living standards in nations euphemistically labelled ‘developing’. These economies grapple with mechanisms of resource exploitation, impacting both the local populations engaged in mining and the factories of technological giants, as well as the natural deposits subject to excessive and irrational extraction (Cámara, 2023; Wetzler, Stuart-Smith, & Dibley, 2024). Moreover, Ladislau Dowbor (2017, p. 33) draws attention to the overarching concern of ‘wastefulness or inefficient use of factors’.

Erik Brynjolfsson and Andrew McAfee (2015) assert that electronics, utilised for information transmission, constitute the foundational infrastructure of the second technological epoch. They depict this era by highlighting that “computers and other digital advances are doing for mental power—the ability to use our brains to understand and shape our environments—what the steam engine and its descendants did for muscle power” (2015, p. 8). And, on top of this, the latest digital developments in the form of generative AI inspire more fear than hope, according to recent studies (Steyerl, 2023).

### IMPLICATIONS OF CONSUMPTION PATTERNS

These optimistic scenarios of ‘genius technologies’ fall short of addressing the predicaments of exploitative labour in the least developed nations, unbridled and unsustainable extraction of valuable minerals, and the environmental ramifications of digital production. This critique not only extends to the discourse as mentioned earlier but also encompasses the works of diverse scholars, including Manuel Castells (2000) and Henri Lefebvre. In his 1958 [1991] treatise *Work and Leisure in Everyday Life*, Lefebvre contends that “only the domain of leisure escapes the technical environment, escapes necessity, in other words, escapes depersonalisation. In our leisure activities, we are already beyond techniques. We achieve a leap from necessity into freedom, from the enslavement of the individual into whatever will permit his self-development” (Lefebvre, 1991, p. 37).

Nevertheless, this assertion proves misleading. Presently, our awareness of the ad-

verse impact of technology on social life is more pronounced than ever. It is easier to accentuate the positive facets of new technologies, as they are readily observable and, in most instances, personally experienced (personal computers, GPS-enabled devices, web browsers, chatbots, etc.). The challenge arises when seeking to underscore the negative consequences of technology. The harmful aspects of new information technologies are ‘less’ conspicuous because those utilising them (e.g., for worker and citizen surveillance) have no incentive to disseminate such knowledge (cf. Baranowski 2019b; Zuboff, 2019). Additionally, one must consider the ‘doubly’ concealed practices of resource extraction, including child labour conditions and the uneven benefits stemming from mineral deposits in economically disadvantaged countries. In a broader context, we ought to heed the cautionary words of the Italian-American researcher that “what prevents our suffering from becoming productive of alternatives to capitalism is also the seduction that technology exerts on us, as it appears to give us powers without which it seems impossible to live” (Federici, 2019, p. 188).

When contemplating the repercussions of our lifestyles and consumption patterns, it is noteworthy that “[t]he average Chinese person ‘consumes’ 1.3 tons of oil equivalent (toe) per year, while a European consumes 4.6, and an American 8.2” (Artus & Virard, 2010, p. 54). Nevertheless, these proportions undergo dynamic changes over short periods. Incidentally, the issue of natural resource exploitation, underscored by French authors, occasionally surfaces in discussions about the consequences of globalisation processes: “(...) no expert can with certainty determine what impact [bringing 1.3 billion Chinese to the living standards of developed countries] will have on the consumption of ‘rare resources’ (energy, natural resources)” (Artus & Virard, 2010, p. 55). The predicament of exploiting rare mineral resources and the associated working conditions did not—and still does not—occupy a central position in the interests of social science researchers. This issue is relegated to the periphery because there are deemed to be ‘more pressing’ social matters and dilemmas. And yet, especially in the perspective of sustainable welfare, it seems crucial “how to maximise welfare under the condition of scarce natural resources would be an inevitable choice to achieve sustainable human development” (Long et al., 2020).

Let us further elaborate on the above by recalling the example of the uneven distribution of the carbon footprint. Thomas Piketty (2022, p. 25) pointed out that “for the period 2010-2018, [they] find that of the 1 percent of the planet’s inhabitants who emit the most carbon, almost 60 percent reside in North America, and that their total emissions are higher than the combined emissions of the 50 percent of the planet’s inhabitants who emit the least”. And, as if that were not enough, the latter will first feel the effects of global warming (Ngcamu, 2023; Omoera & Guanah, 2022).

### **POTENTIAL SOLUTIONS: THE ROLE OF DEGROWTH**

The central inquiry arising from the prevailing line of argumentation revolves around the feasibility of safeguarding social welfare while concurrently mitigating the adverse repercussions of techno-economic development (Bortolini, 2020). This inquiry necessitates an exploration of hitherto marginalised concerns, encompassing not

only the exploitation of labour in the peripheral countries of the global capitalist system (Ngai, 2005) but also more inconspicuous issues linked to, in Beck's (1992, p. 20) terminology, the overdevelopment of productive forces. In theory, the discourse on sustainable development and the global discourse on consumption limitation cannot provide comprehensive solutions to the myriad challenges associated with the rapid advancement of information technologies and their conduits (Sundberg, 2024). The concepts of degrowth (Kallis, Kerschner & Martinez-Alier, 2012; Schneider, Kallis, & Martinez-Alier, 2010) may proffer potential solutions, grounded in assumptions that hold promise for practical application.

## CONCLUSION

In *Risk Society*, Ulrich Beck observed that “in response to threats from external nature, we have learned to build houses and accumulate knowledge. However, faced with industrial threats, this second nature integrated into the industrial system renders us almost powerless. Dangers are like hitchhikers on the ride of our normal consumption” (Beck, 2002, p. 13). Drawing passive or, worse, non-action strategies from this line of argumentation is unwarranted. We initiate a discourse by possessing and disseminating knowledge regarding the negative consequences of the entire organised industry involving exploitation and senseless extraction of our planet's natural resources (Baranowski, 2023; Saikia & Mahanta, 2023). This discourse, coupled with potential shifts in production and consumption practices, is imperative given the scale of the phenomenon that surpasses common-sense perceptions. To illustrate, by the year “2013, six billion of the globe's seven billion inhabitants owned a cell phone. (By way of comparison, just 4.5 billion had a toilet)” (Bregman, 2016, p. 8). Consider the strain on less affluent countries resulting from the demand for precious mineral resources used in electronic devices, which have become more prevalent globally than toilets. Examine the discourse on (nature-based) social welfare from both the (1) material and subjective capacities to meet needs in the wealthiest nations and (2) the ‘impossibility’ of fulfilling them in the poorest.

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