



# Ecological criticism of growth and the means and ends of technology. A pragmatist perspective on societal dynamics



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## ABSTRACT

This article examines technological dynamics from the perspective of an ecological criticism of growth. The first part introduces the use of pragmatist thinking for this purpose. It also provides a basic definition of criticism of technological growth, which is a criticism of a self-increasing and uncontrollable dynamics of means that fails to take social and ecological ends into account. The second section explicates pragmatist thinking in more detail and argues for reflecting on means–ends relationships as a critical guideline in assessing technological developments. The third section builds on this conception and discusses historical and current criticism-of-growth debates, particularly degrowth/postgrowth debates. The main results of these considerations are, first, that specifications of growth can clarify the role of technology in growth dynamics, and, second, further reflections on societal development are necessary to overcome the uncontrollable proliferation of technologies. With regard to the first point, the fourth section distinguishes between direct and indirect driving forces underlying the dynamics of technological advancement: technological development is inherently driven while consumerism and capitalist accumulation can indirectly reinforce technological dynamics as well. Finally, section five points to the potential of pragmatist ideas to obtain more control over the criticized dynamics in a democratic and sustainable way.

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## 1. Introduction

In the preface to his book ‘Together,’ Sennett (2012) articulates what criticism of technological growth *in nuce* means from a pragmatist point of view.

‘I emphasize skill and competency because in my view modern society is de-skilling people in the conduct of everyday life. We have many more machines than our ancestors but less idea of how to use them well (...). Practiced skill is a tool rather than a salvation, but lacking it, issues of Meaning and Value remain abstractions’ (Sennett, 2012: x).

Pragmatism closely ties a meaningful conduct of life to well-developed capabilities and skills. Skills are not valuable per se, but without them a meaningful conduct of life is impossible. From this perspective, the value of technology is regarded as depending on how it serves people without replacing them or endangering

their living conditions and by empowering them and supporting their capabilities. This is why simply inventing more and more technology cannot improve society on its own and new technologies cannot solve the social and ecological problems of the previous ones. Only the development of both skills and meaning of ‘how to use them well’ (Sennett, 2012) can amend socio-ecological life. Following this insight, we can easily discern a basic definition of the criticism of technological growth: it is a criticism of the self-increasing and uncontrollable dynamics of technological means that do not take human (social and ecological) ends into account.

Modern societies have increased the use of technology and continued to revolutionize it. Enduring optimism about the blessings of technological progress has spurred perpetual developments. Economic and technological growth has been a fixed, self-evident, and indisputable end on the political agenda in the industrialized world. Even so, we can also observe skepticism and fear. Especially nuclear weapons and technological intrusion into environmental living conditions have nourished ideas of a possible self-extermination of humankind during recent decades. However, a pragmatist understanding of technology can neither just demand the stop of technological development nor simply call for other

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technologies. In particular, criticism of *growth* is ill advised to refer to the problematic results or specific technologies alone but should rather focus on their (direct and indirect) *driving forces*. The *dynamic of technological development* itself needs to be reflected as a source of social and ecological problems. This is what this article is about.

In a first step, I will further explicate pragmatist thinking. A pragmatist approach not only allows a critical diagnosis of societal developments – that people are losing control of these developments by pursuing misleading promises and falling prey to illusions about technology. Pragmatism also provides criteria for such a critical evaluation by focusing on means–ends relationships, which are applied as a conceptual guideline in the following sections. The third section does so by asking about means and ends in historical and, particularly, in current criticism of growth, that is, the degrowth and postgrowth debates. The subsequent section discusses what it actually means to speak of ‘self-increasing and uncontrollable technological dynamics.’ It introduces a distinction between direct and indirect driving forces of technological increase. While there are ‘internal’ driving forces inherent to technological development itself, consumerism and capitalist accumulation provide additional ‘external’ drivers. Finally, pragmatist thinking about democracy can also open up prospects for a potentially sustainable path of technological development.

## 2. Pragmatism and means–ends relationships

The reference to Sennett in the introduction shows what criticism of growth means from a pragmatist perspective. This raises some questions: Why is it that more and more technology is developed although its use seems to be problematic? What is wrong with the use of technology in modern societies? On what grounds can such criticism be justified, and are there alternatives for technological development?

Pragmatism diagnoses a misunderstanding of technology in modern society, according to which technology forms an objective counterpart to human subjects, a passive means separated from human will. Rammert (2012: 91) calls this ‘the illusion of autonomous human action.’ This causal-instrumental illusion of passive and therefore controllable things stimulates the invention of ever more technology to solve societal problems: if a problem has not yet been solved, new technology will fix it. In Latour’s terms (1993), this results in a proliferation of ‘hybrids’ that endangers ecological living conditions.

To avoid such consequences, the underlying modern dualism needs to be overcome. Pragmatist theory of action develops such an alternative and offers ‘a pragmatic concept of agency that reconstructs it from the processes of inter-agency with other persons, things and signs’ (Rammert, 2012: 91). Technology and culture are not regarded as opposites but as constitutive of one another in their procedural interrelations (cf. Strübing, 2004: 217f.); skills are not just subjective traits because they result from an objective but experimental step-by-step practice. The interactivity between human beings and technology needs to be practiced, cultivated, and improved,<sup>1</sup> and this is what Sennett (2012) means when he writes of ‘skill and competency.’ He exemplifies such interplay of ‘head and hand’ in his handicraft book, describing it in detail especially in the chapter on ‘The hand’ (Sennett, 2008: 149ff.). The experience of manual labor with materials at once develops a person’s thinking,

sensing, and motor skills as the person shapes materials and evaluates the outcomes. ‘Prehension presides over each technical step, and each step is full of ethical implication’ (Sennett, 2008: 178).

This integrative conception of practice and ethics is one of Sennett’s (2008) main concerns. In this regard, he contrasts his own pragmatist view of technological development with the way his academic tutor, Hannah Arendt, thought about it in the face of the threat of the atomic bomb. He introduces her thinking as one that separated the construction of technologies from ethical reflection on technology; that is, it assumed that thinking about technology requires a distance from and independence of practical involvement. Decades later Sennett offers the opposite solution: action and reflection on the means and ends of technologies need to be more closely connected. Reflecting and deliberating the means and ends has to be part of the development process. This provides the opportunity of directing, adjusting, revising, or avoiding problematic results (e.g., destructive technologies) and facilitates technological, social, and political learning; if such reflection and deliberation does not take place early on, it is too late for ethics.

Thus, pragmatism provides a dynamic conception of practice but without aiming for any kind of increase as an end in itself. Rather it is oriented toward problem-solving and the consequences of action that motivate experimental learning processes; these are endless in principle but find their limits in well-developed practical solutions. Moreover, this conception is not only bound to face-to-face (or face-to-thing) interaction; Dewey (1991) in particular formulated a democratic theory founded on such ‘experimental inquiry.’<sup>2</sup> As these pragmatist ideas integrate ethical reflection and options for democratic processes, this conception offers an inspiring foundation for a criticism-of-growth perspective and a bottom-up approach to alternative developments.<sup>3</sup> It is open toward technological invention without overrating the capacity of technology for social and ecological problem-solving.<sup>4</sup>

The definition of criticism of growth (self-increasing and uncontrollable means) offered above already points to the need to reflect on means–ends relationships as one of the main criteria for the evaluation of technological development. Without the insights from pragmatist theory, however, this approach might seem too simple and too instrumental if applied to understanding growth dynamics and post-growth alternatives. An instrumentalist approach would subscribe to the ‘illusion’ (Rammert, 2012) of manipulating objective matter that is subordinated to human will.<sup>5</sup> A pragmatist conception, by contrast, would consider the interdependency of subjective thinking, technological operations, and the shaping of matter, which is to say that such an approach perceives means and ends as being mutually developed, adapted, and potentially improved in a process. Thinking in terms of means–ends relationships gives rise to permanent scruples (Latour, 2013: 443ff.) and motivates us to continuously ask about the

<sup>1</sup> ‘Dewey’s concept of inquiry (Dewey, 1940) may be seen as a mode of cultivating relations of interactivity with objects. In this view, technology is not a separate object that is used as an effective instrument of human will but as a set of “active productive skills” (Hickman, 1990: 18)’ (Rammert, 2012: 102).

<sup>2</sup> Dewey’s ‘democratic experimentalism’ has been broadly debated in democratic theory over the last two decades. It has also become a main reference for current critical theory (Honneth, 2000, 2015). For a discussion of the connections between American (i.a., Dewey) and new French (i.a., Latour) pragmatism with a special focus on democratic theory, see Lamla (2013).

<sup>3</sup> Hassanein’s (2003) idea of ‘food democracy’ can serve as an example for using pragmatist thinking as a guideline for societal change initiated from the bottom up.

<sup>4</sup> This is an essential difference to the conception of ecological modernization (cf. Mol, 2010; Huber, 2011) with its primary focus on technological progress, for which it has been criticized (cf. Brand, 2014; Lorenz, 2014; Grunwald, 2016).

<sup>5</sup> In terms of political economy, such instrumentalism can appear in very different forms: whereas socialist thinking, as reconstructed by Honneth (2015), followed a rather fixed idea of what a desirable economic system would look like, economic liberalism is ideal-typically content with any kind of individually set ends without further social justification.

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