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Utopian and dystopian thought in climate change science and policy

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ABSTRACT

Climate change policies are increasingly seen as integral to sustainable development policies. This article examines how visions of future society have been employed in climate science and multilateral negotiations. Using elements of utopian and dystopian thought. we have categorized UNFCCC documents, IPCC assessments, and special reports and peerreviewed climate policy articles. Our results indicate that utopian thinking surfaces with reference to sustainable development and emissions scenarios. Such visions of future society fall into three categories: projections, dystopian thought, and utopian thought. Dystopian thought is mainly evident in the rhetoric of various actors, and is used to spur action or inaction, to avoid either economic catastrophe by acting too fast or ecological catastrophe by not acting fast enough. Utopian elements in climate change science and policy refer to decoupling greenhouse gases and economic growth, evenly distributing the benefits of economic globalization, and smoothing technological development. The present piecemeal invocation of sustainable development concepts in climate science and policy emphasizes the difficulties of integrating environmental, social, and economic concerns. The article concludes that utopian thinking regarding sustainable development could result in more integrated and holistic visions of future society in climate science and policy.

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1. Introduction

Climate change policies are increasingly seen as integral to sustainable development policies in international science and politics for two reasons. First, the climate is recognized as an important boundary factor for social organization, and climate change is likely to have a negative effect on opportunities for social and economic development [1–4]. This viewpoint has come to be frequently discussed in the media and popular culture, which portray climate change as a threat to desired visions of "the good society". Second, sustainable development is described as a crucial issue for furthering the multilateral negotiations on climate change. An increasing number of scholars, negotiators, and experts has highlighted the benefits to both policy arenas of linking sustainable development and climate change [1–3,5–8]. In particular, it is believed that making this linkage will reenergize discussion of questions of intra- and inter-generational equity, thus creating stronger incentives for involving developing countries in future climate agreements. In this context, a vision of global sustainable development often comes to the fore.

This article examines visions of the future society articulated in climate change science and in multilateral negotiations concerning sustainable development. As our analytical lens, we use two facets of such visions: the utopian role of sustainable development and its opposite – dystopian climate change thought.

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In Section 2, we present our analytical and methodological framework. In Section 3, we examine key framings of sustainable development in climate change science and policy. In Section 4, we discuss utopian and dystopian features of climate science and policy. Section 5 concludes the article, elaborating on the utopian and dystopian roles of sustainable development in shaping future climate change policy.

2. Analyzing utopia and dystopia

When looking at visions of the future in climate science and policy, we must look at both utopian and dystopian thought. Visions of the future include those of "the good society", expressed in sustainable development terms, climate scenarios, and policy rhetoric as the low-carbon society, but also future high-carbon dystopias characterized, for example, by the high occurrence of catastrophic events and widespread drought and hunger. Consequently, the role of climate policy is both to achieve a low-carbon economy and to avoid the vengeance of nature. "Utopia" is a rare word in climate science and policy. In fact, the only occurrence of either "utopia" or "dystopia" found on the UNFCCC or IPCC websites is the Argentinean Ambassador's, Raúl A. Estrada-Oyuela's [9], input to the second IPCC expert meeting on development, equity, and sustainability: "To reach and consolidate equality may be utopia, but utopia is needed to advance political ideals". However, utopian thinking can be found frequently when we examine the climate change discourse. We have chosen to focus on two areas likely to involve visions of how the future society can be organized: sustainable development and emissions scenarios. Through analysis of UNFCCC documents, IPCC reports, and peer-reviewed climate policy articles, we have selected sets of elements of utopian and dystopian thought. We will use them as analytical categories in discussing how sustainable development is framed and used in climate science and policy.

2.1. Utopian and dystopian thinking

Inspired by Plato's *Republic*, Sir Thomas More [10] depicted Utopia as a small island harbouring a homogeneous, egalitarian, and pacifistic city state in which social virtues prevail. Evils, such as poverty and misery, are all absent, possibly explaining why Utopia has few laws and no lawyers. The word "Utopia" is derived from the Greek words for "no place" and "good place": *topos* meaning place and the homonymous prefixes *eu* meaning good and *ou* meaning no, so the ideal good place is also no place. Somewhat incongruously, utopian thought often contains detailed prescriptions for society [11].

We distinguish between two contrasting visions of the future society: the utopian – a vision of the good society – and the dystopian. Utopian thought articulates visions of the desired society based on contemporary experiences. In contrast, dystopian thought describes a society overshadowed by at least one fatal flaw found in present-day social organization, and thus depicts an undesired society evolving from present conditions.

Utopian thinking has amassed negative connotations as a result of totalitarian efforts to bring about utopias in real boarders within fixed time frames, accompanied by claims of absolute truth. This function or use of utopian thought is outlined by Hedrén and Linnér [11] in this issue. In being prescriptive, utopian thinking has been claimed to be too static. Another function or use of utopian thinking is as a transformative force or agent of change in global politics and policymaking. To function properly in this way, utopian thinking must transcend three fundamental and problematic aspects of modernity: *scientification* or the notion of fixed truth, *nationalism* or the notion of fixed space, and *blueprints* or the notion of fixed final goals for politics. Scientific and technological utopias portray a future when advanced science and technology will allow utopian living standards, such as the absence of death and changes in human nature [12].

The antipode of utopia is dystopia. Dystopias of climate change are also characterized as imaginary places, since they are based on worst-case scenarios. Sometimes they are treated as extrapolations of current trends, when they are in fact based on scenarios, that is, hypothetical chains of events – visions of future development.

Post World War II environmentalists conveyed vivid warnings of environmental degradation. These so-called "Prophets of Doom" warned that if society did not change its present course, civilization was heading toward catastrophe. This is a typical example of using dystopian thinking in order to avoid negative consequences. These environmentalists backed their claims with what Theisen [13] calls "katastrophempiri": the catastrophe as revealed by statistics, models, and scientific data. Such dystopias express the diametrical opposite of the vision of the good society. In earlier apocalyptic thinking, contemporary events were interpreted to provide signs of impending catastrophe. However, in post-war environmental debate, such dystopias were backed up by science-based arguments. According to the virtues of positivistic science, it would be possible for anyone with scientific training to test the evidence for an predicted impending catastrophe.

We can distinguish four categories of climate dystopias: (1) *Determined apocalypse*: Given extreme long-term climate variations, ecosystems and place-based cultures are bound to collapse. This is the slow and law-bound version of disruption catastrophes: everything happens by necessity and is causally conditioned. (2) *The apocalypse of the disheartened*: Bad times can make people temporarily resign, give up hope, and predict that everything may well "go to hell". Rather than being a statement of a scientific theory, it is an expression of despair in a specific situation. This apocalypse of pessimism is not predestined or determined, but rather a *likely* way for humanity to meet its future. This notion also entails that the end is the causal result of present actions; if the actions are altered, however, the law-bound end results might be different. (3) *Apocalypse as re-creation*: Apocalyptic thinking often contains a notion of catastrophe as the impetus for re-creation. There is a millennial aspect to this concept of apocalypse: paradise will be reopened. This concept of apocalypse is obviously

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