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Considering the Socio-ecological Co-construction of Nature Conceptions as a Basis for Urban Environmental Governance

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Abstract

This paper addresses the evolution of nature conceptions in the last two decades as a response to the global ecological crisis and the parallel redefinition of landscape and society-environment relations it implied. Skandrani then further proceeds to explain current conservation disputes based on these conceptual refashioning and illustrate how social conflicts develop out of the diversity of nowadays co-existing nature understandings. Skandrani discusses how scientific research could help resolve potential social-ecological conflicts and better inform environmental governance through the critical analysis of the societal processes and interactive dynamics between human and non-human stakeholders shaping conflicting nature conceptions.

Keywords: Environment-society relations; Governance; Nature conceptions; Social-ecological systems; Inter-species agency

Nature Conception Heritage

The human relationship with nature, as it has been culturally mediated in the Western dominant social paradigm has predominantly been defined based on conceptions of a firm boundary between humanity and the environment. Latour [1] argues that the essence of the "modern constitution" lies in the fiction of an ontological separation between humans and society on one side and nature and non-humans on the other side. This dualism has been explained to be deeply rooted in Western tradition and inherited from Greek philosophy and Judeo-Christian theology. Since the seventeenth century, rationalists such as Descartes and Bacon, as well as Enlightenment thinkers such as Newton, Kant, Adam Smith, and Montesquieu further contributed to anchoring the externality of nature and the disjuncture of nature and human society. In nineteenth century materialist evolutionism, 'man' sought to transcend nature and separate himself from it as a means to controlling the 'external' world.

Seeing nature as distinct from humans has disseminated into a myriad of further conceptual categorizations and framed the treatment of the environment and the spatial ordering of its biodiversity components. For example, the externalization of "nature" from human beings has made it easier to consider "nature" as a resource to be overexploited and refined for social and economic growth in western societies. Further, the conceptual 'othering' of non-humans such as animals has often led to a geographical 'othering', thus designating them in spaces different from those designated for human habitation [2]. Anthropization of landscapes meant the active displacement and re-placement of local species that should properly be proximate to people [3] pets and companion animals under human dominion are envisaged in zones of human settlements; wild species in the wilderness beyond human civilization or in zoos where their lack of adaptation to humans is compensated by their confinement behind bars. Between these two extremes, domesticated animals that are useful to humans as food and other products are allocated to specialized locations such as agricultural landscapes ('the countryside') [2]. In parallel, the modern city as a typical human habitat has been perceived as a deviation from a presupposed 'natural' environment. The concepts of 'urban' and 'city' have been contrasted with their inverses of 'rural' and 'country' as an effect of the society-nature antinomy [4].

Contrasts in Nature Conceptions and Conflict Potential

Conceptions about nature and society-environment relations have been increasingly debated and reformed in the last decades through developments in epistemology and scientific research as well as in political circumstances (e.g., Millennium Ecosystem Assessment) and at the concrete level of urban nature management. From a theoretical perspective, the traditional representation of the 'civilized' city has evolved into a more holistic conceptualization of nature as embedded within the urban concept.

Classical ecology and traditional earth science-based approaches of ecosystem dynamics that treated humans as external to the system have been judged as obsolete [5] and challenged by novel frameworks. Contemporary scholars emphasize that natural conditions are not separate from social processes. Generally, the term "social-ecological system" [6] is used to highlight the integrated concept of humans within nature and to address the delineation between social and ecological systems as artificial and arbitrary.

These conceptual developments are driven by the dramatic and recognized consequences of human population growth and drastic urbanization on environmental degradation, biodiversity loss and the potential extinction of thousands of additional species. In parallel, natural reserves, an effect of the 'humans out' vision, are recognized as insufficient for environmental conservation [5]. Thinking of nature and human-environment interdependencies in these novel terms involved a fundamental reconsideration and reorganization of the physical and imagined landscapes, as well as a redefinition of the

proper relations between nature and its human and non-human components [3]. Human spaces are hence increasingly considered and advocated as complexes of nature restoration and ecological diversity.

Yet, institutional and conservation efforts of bringing nature back 'in' presuppose the existence of a 'place', which is not only a material place but also a conceptual space where nature is welcome [3]. The definition of this place strongly depends on the main coexisting conceptions about nature, their corollary values and spatial ordering while a mismatch between these lies at the heart of social conflicts about biodiversity [7].

Today, the shift in mental models toward humans-in-the-environment or nature-within-human spaces perspectives and the resulting changes in urban landscape description and meaning are not necessarily embraced uniformly. Indeed, as a consequence of transformations in the way people represent and value nature in the last decades, there is presently an increased and overlapping diversity in nature conceptions and society-nature relations. The resulting contrasted spheres of meaning may unknowingly generate understanding gaps and reluctance on environmental issues, particularly when changing nature representations entail landscape redefinitions, resulting in new human-biodiversity-environment relations and spatial ascriptions.

First, urban residents are less familiar with biodiversity than are their counterparts of 25–30 years ago and sometimes hold low tolerance for nature due to the loss of everyday interactions with nature [8]. Untamed nature and especially animals are thus still experienced by many people as 'out of place', social disorder and transgressive in human places [8,9]. Such remnant perspectives inevitably collide with institutional efforts of urban nature restoration, which results in increased human-biodiversity encounters [10]. For example, in rural areas, social conflicts with wolves have been reported not to be based on antagonistic attitudes about the species itself but on conceptions of the wolf as a fundamentally wild animal acceptable in wilderness areas but not in rural areas [11].

Thus, beyond the modification of external circumstances, emphasis is placed on the necessity of Western societies to lift people's estrangement from nature and to enhance individual connections with their environment by encouraging direct experiences with urban nature. As an adaptive response to the ongoing global ecological crisis, the recognition of the continuum between nature and society and the change in conceptualizing human-environment relations thus entails a progressive revision of values and an adjustment in societies' lifestyles [7].

Yet, in the context of environmental conservation also, divergent conceptions lead to complex interactions between various stakeholders [12]. Indeed, despite a shared ultimate goal (of conserving biodiversity), individual representations proceed from a utilitarian valorization of nature, a tribute of the former human-nature dichotomy, to a more holistic perspective including the non-instrumental, intrinsic value of species, ecosystems, or ecological processes themselves that should not be reduced to a mere means to satisfy human ends [7]. In the first perspective, there may be an economic valuation of plant genetic diversity because of its pharmaceutical value. By contrast, the latter perspective may further diverge into ecocentric and biocentric values that focus on holistic concepts such as habitats or species and on the individual well-being of plants and animals, respectively. People are not necessarily consciously aware of their nature representations; however these undergird position and attitude toward conservation issues [12]. Thus, although the protection of nature, landscapes, and biodiversity is an important issue in public opinion, there can be fierce local resistance to the implementation of environmental policies, as coexisting discourses about nature may yield conflicting protection actions for different types of biodiversity [12].

A major scientific challenge today is thus to provide insights for handling such conceptual contradictions and related socio-ecological conflicts. The main thesis here is that for understanding and mitigating social conflicts on biodiversity it is first crucial to identify the manifold interaction dynamics between socio-economic, political and ecological factors and processes, through which the involved conflicting conceptions about biodiversity and the environment are actively produced and spread (Figure 1). The proposed analytic framework could be used for the development of governance models that secure a systems' capacity to support appeased social-ecological relationships into the future.

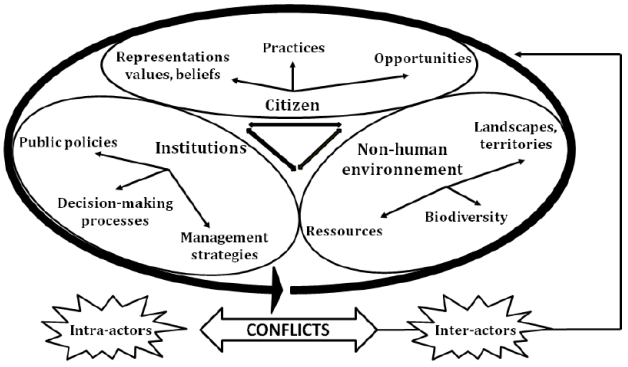

Figure 1: Conflict creation within socio-ecosystemic interactions. Among these, social representations, dynamically influencing and reciprocally influenced in their formation by the system's socio-political and ecological factors, bear a major potential for conflict

Mitigation on Socio-environmental Conflicts

While frameworks of social-ecological system analysis have previously recommended the identification of dynamics between social and ecological variables at multiple levels [13], nature representations are rarely questioned in these approaches, although their centrality has been repeatedly recognized [7,12].

Here, Skandrani argues that highlighting the content of environmental conceptions involved in conflicts is however only one step. When dealing with contradictions and oppositions on environmental issues, research priorities must not only clarify the underlying nature conceptions, but also pay attention to how these come about, and to critically analyze the discourses shaping their articulation [14]. Indeed, uncovering the processes of nature conceptions production and the ways they are conveyed is central to anticipate the generation of potential conflicting nature understandings and obstacles to environmental conservation in the future.

These representations, as well as of the appropriate society-environment relations, are the contextual and socially developed

interpretations of the environment, which are relative to a certain place and time [12]. They are developed through communication in many different social practices and are related to knowledge, education, and the social groups in which people participate [14]. Exploring these processes involves all society members and concerned stakeholders as well as the interdisciplinary consideration of their interactive dynamics and reciprocal influences, through which meaning is assigned to the environment. In a comparative study between two European cities, Skandrani et al. [10] showed for instance that urban green management strategies, relying on top-down cognitive awareness raising measures while keeping people in retreat from and controlling their access to urban nature, contribute to build control visions about nature in public opinion. Yet, such visions may hold conflict potential regarding current ecological strategies in cities favoring spontaneous and uncontrolled nature. Thus, cities reintroducing urban nature while implementing exclusive management provide competing explicit and implicit discourses about nature that might be counterproductive.

Further, when focusing only on how nature and biodiversity are represented, it may seem that they are merely passive surfaces onto which human groups project meanings [2]. This is why it should also be considered how nature and other non-human species may themselves figure dialectically in these practices and the extent to which they constrain human orderings and the social meanings they are attributed. Following actor network theory [1] both human and non-humans are enrolled and hold agency in this meaning production: lay people, institutions, but also nature and biodiversity. Indeed, biodiversity representations are contingent on institutions and their codifying power [5]. These institutions are themselves constantly redefined and reinvented to coevolve with a dynamic environment, as shown by the transition from 'government' to 'governance' taking place in many countries [15]. Most importantly, plant and animal species are not only a product but essential actors, or 'actants' [1] of the social-ecological system, by impacting behaviors and forcing adaptations or adjustments not only at the level of individuals but also at the level of whole municipal economies [4].

Scientific efforts aimed at supporting socio-ecological conflicts mitigation and informing resilient governance models should thus concentrate on improving our knowledge on the joint construction of nature/biodiversity/animal conceptions and nature-society relations. This could constitute a powerful tool to build shared visions and mitigate resistance on environmental and conservation issues. Further, governance models, relying on the type of interdisciplinary framework advocated here, may be more likely to overcome impediments to the acknowledgement of all actors as co-inhabitants and companion species in the hybrid ecological metropolis [16].

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